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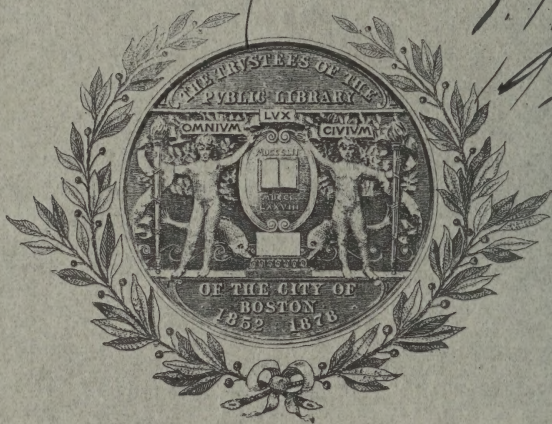
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MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

WILLIAM C. WOODWARD, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, JANUARY, 1922.

No. 1

LOCAL INFLUENZA SITUATION.

Ever since the beginning of this winter, epidemics of so called influenza have been reported from various parts of Europe. These epidemics have been attended by considerable mortality, but reports agree that there has been nothing like the seriousness of the 1918 and 1919 epidemics. There has lately been an increase in Boston of cases of what the physicians usually call the old-fashioned "grippe" to distinguish them from the typical influenza cases of three years ago, but thus far there has been no increase in mortality from pneumonia or other respiratory diseases in Boston, unusual for this season of the year.

In New York a type of infection apparently similar to that in Boston has been complicated with a serious pneumonia epidemic. In view of the probability of the development of a similar situation here, the Boston Health Department has been making special efforts to improve sanitary conditions, particularly in public eating places, and to advise the public regarding personal precautions which should be observed at present. Arrangements have also been made in co-operation with unofficial agencies for providing medical and nursing care, household help and transportation as was done in the epidemic of 1920.

It is, however, foolish to talk of a Health Department preventing an epidemic of grippe or influenza. In so far as infections like grippe or influenza can be prevented at all must depend upon the trouble which people themselves are willing and able to take for their own protection. We know that infections like influenza or the grippe are spread from person to person. We know that it is not persons who are sick in bed but persons who are running around and mingling with other people who are the most important factors in spreading

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such infections. People get the germs of influenza or the grippe implanted in their systems by breathing closely confined air into which other people have coughed, sneezed or talked. People can also implant these germs in their systems by using improperly washed eating and drinking utensils which other people have used, or by eating food which other people have coughed over or talked over, or by eating with hands which may have been accidentally soiled by the secretions from other people's noses or mouths. People, therefore, can only protect themselves against the possibility of infection by the trouble they will take to keep out of crowds, to see that eating and drinking utensils which they use and the food that they eat are clean and that their own hands are clean before eating. The results of getting the germs of these infections implanted in one's system will depend upon the condition of the person himself. A person may be immune to these infections and no result will follow. But usually the results will depend upon the person's general physical condition. Pneumonia, which is the complication of grippe or influenza to be feared, is essentially a disease of physical exhaustion or lowered vitality. To avoid serious consequences from taking in the germs of influenza or grippe, avoid getting chilled or tired either by work or play; get plenty of sleep, get meals regularly, but don't overeat. At the first symptoms of sickness go to bed, stay there until the bodily temperature has been normal for at least two days. Let a person who is seriously sick stay in his own home if possible. Chances of recovery are greatly diminished by removing a sick person from his bed, jouncing him around in an ambulance, exposing him to danger of getting chilled, and finally putting him in a ward where he probably has an opportunity to exchange germs with other people.

WEEK ENDING.	CASES.		DEATHS.	
	Influenza.	Lobar Pneumonia.	Influenza.	Lobar Pneumonia.
January 7.....	3	28	2	14
January 14.....	3	36	1	16
January 21.....	2	34	2	23
January 28.....	35	33	3	11
By Days.				
January 29.....	3	3	.....	2
January 30.....	7	4	.....	2
January 31.....	15	5	.....	2
February 1.....	22	1	.....	.....
February 2.....	11	9	.....	2

VACCINATION AGAINST INFLUENZA AND PNEUMONIA.

There are many theoretical reasons for believing that it should be entirely practicable to vaccinate persons against influenza and various forms of common colds and pneumonia by following a procedure similar to that which has proved so successful in protecting against typhoid fever. We have abundant evidence that a natural immunity to infections of the character just mentioned must be very common even if such natural immunity may not be depended upon to last indefinitely in any individual. Animal experimentation has encouraged the belief that we ought to be able to produce artificially a similar immunity, but progress has been slow in furnishing evidence of definite tangible results when it has come to dealing practically with human beings.

There are many good reasons why progress must necessarily be slow. Some of these reasons are the following. Natural immunity to infections of the character we are considering is so common that in experiments with human beings it has been difficult to determine whether apparent protection against the disease has been due to the vaccination or to a pre-existing natural immunity. We have as yet no test like the Schick test for diphtheria to determine a person's susceptibility to these infections. We find healthy persons carrying without harm to themselves organisms which we regard as the causal agents of serious diseases. For example, it has been estimated that type III. pneumococcus, which is regarded as the cause of the most fatal form of pneumococcus pneumonia, was to be found in the mouths of 25 per cent of healthy people. One of the most notable features of the recent pandemic of influenza was the evident immunity of most people above forty years old.

It is to be remembered that much yet remains to be learned as to the real biological nature of immunity and how it is produced and how it may be lost. We must not allow ourselves to be misled by talk about "antibodies" or "antigens" into mistaking working laboratory hypotheses for demonstrated facts. Even after an organism has been found to be responsible for a disease and made to grow in the laboratory, and success in the production of an effective vaccine may seem theoretically probable, many puzzling failures are likely to occur before a reliable vaccine is produced and the proper dosage determined.

One of the difficult problems in studies of diseases of the respiratory tract has been to determine what relation, if any, the various different kinds of bacteria found to be present have to the cause, complications or outcome of the disease. The uncertainty as to the part which the various bacteria found in connection with influenza play

in causing the disease or its complications has not yet been removed. The same is probably true with respect to some forms of common colds. On the other hand, different kinds of bacteria may produce infections of the respiratory tract practically indistinguishable by clinical symptoms. For example, certain streptococci as well as any one of the four types of pneumococci are frequent causes of a lobar pneumonia.

But progress is steadily being made in the way of providing reliable vaccines to protect against the infections of the respiratory tract which cause so much disability and mortality in this climate during the colder months of the year. While not always successful, vaccination against so-called common colds often proves remarkably effective. In efforts to produce an influenza vaccine many experiments have been made with various combinations of the different kinds of bacteria which have been found associated with cases of influenza. These bacteria have been grown and handled in the laboratory in different ways so that the so-called influenza vaccine which has been used by different experimenters or even at different times by the same experimenter really represents very different products. Some of these products have unquestionably proved worthless for protective purposes. Whether any one of them, under any circumstances, has ever proved of protective value is a debatable matter, to say the least.

It has long been known from practical experience that physical exhaustion tends to break down natural immunity or resistance to the development of any of the various forms of pneumonia. Such physical exhaustion may be brought about by overwork, unaccustomed work, loss of sleep, insufficient food, digestive impairment, or by any exhausting illness, acute or chronic. All these factors tend to be operative to an unusual extent among new recruits in military service. Barrack life, furthermore, favors the distribution of all the organisms capable of producing any of the various forms of pneumonia. As a result pneumonia in military life tends to assume an epidemic character. For this reason military medical officers have been especially active in efforts to develop an effective vaccine against the more common forms of pneumonia. The conditions of military life, moreover, offer great advantage in the way of trying out and testing the efficacy of vaccines prepared for this purpose. Prominent research laboratories have been steadily working on the pneumonia problem as it presents itself both in military and civil life.

A protective vaccine against various forms of pneumonia, including that due to a hemolytic streptococcus, is at present being tried out in the army and is giving promise of being as efficacious for military purposes as vaccination against typhoid fever. A vaccine

against types I., II. and III. of pneumococcus pneumonia but lacking the anti-hemolytic streptococcus feature has also been developed and tested experimentally, with results that have led some public health officials to recommend its use as a protection against these types of pneumonia in civil life.

It would seem, therefore, reasonably safe to say that today if a person wishes to protect himself by vaccination against a possible attack of the commoner forms of pneumonia he has at his disposal the means of doing so. But assuming that such anti-pneumonia vaccines will prove to be really as efficacious in giving protection as they promise to be, it does not necessarily follow that they offer the solution of the pneumonia problem as it appears in civil life. The administration of the army vaccine is frequently followed by sickness for several days with such pronounced local and constitutional symptoms as to tend to discourage popularity of this vaccine in civil life. Moreover, the duration of the protection afforded by these anti-pneumonia vaccines still remains to be demonstrated. It is not improbable that it will be found that protection cannot be trusted to last more than a few months.

NOTICE TO PROPRIETORS OF HOTELS, RESTAURANTS, CAFETERIAS, BAKESHOPS AND SIMILAR ESTAB- LISHMENTS.*

With a view to limiting the spread of influenza and other respiratory diseases the law requires you to take precautions to protect those to whom you serve food.

Glasses, Cups, Spoons, etc.—Glasses, cups, spoons, and similar articles that are handled by and go to the mouths of those who eat or drink in your establishment are recognized as means of spreading contagion, unless after having been used by one customer they are sterilized before being used by another. For that reason, *the law requires you to sterilize them.*

Pies, Cakes, Bread, etc.—Pies, cakes, bread, and other similar articles that are exposed on counters so that they may be coughed upon or over by persons eating in your establishment or by your employees may convey disease. For that reason, *the law requires you to keep them covered so that they cannot be thus contaminated and dangerous.*

Sick Persons.—Persons may spread influenza and other diseases without showing evidence of being ill, and against these you can guard by such methods of cleanliness and of protection of foodstuffs as are

* Copies of this circular have been distributed to all such food establishments in this city.

referred to in the two preceding paragraphs, and by adequate light, ventilation and cleaning of your premises. Against the spread of disease in your establishment by sick employees, however, you can further protect your patrons by excluding such employees from service during the period of their illness. It is particularly important at the present time that you do so. The Health Department will concentrate its efforts to the utmost possible extent for the present on the prevention of the spread of disease through contaminated food-stuffs, and the laws for the protection of the public against infection through that channel will be rigorously enforced. Your co-operation is solicited in order that prosecutions may not be necessary.

DISINFECTION OF THE SICK-ROOM.

If due care as to the cleanliness of the sick-room has been taken during the course of the illness, disinfection after the recovery of the patient will be very much easier. In any case, after the recovery of the patient, bed covering should be spread about so as to "air" the bed; closet doors and bureau drawers should be opened, and then windows and doors leading into the open air should be thrown wide open for twenty-four hours or more. Then proceed to remove from the room for destruction such articles as are to be destroyed, and give the room generally a thorough "housecleaning." Rugs and hangings, if any have been in the room, should be exposed to the sunshine and fresh air, floors and woodwork should be thoroughly scrubbed, and furniture should be wiped off with a damp cloth, preferably damped with a bichloride solution, 1 to 1,000, made by adding one standard seven and one-half grain bichloride tablet to each pint of water. If the scrubbing, sunning, and airing be done with care, and if precautions advised in this circular against infection of the room during the illness have been followed, the room will be reasonably safe for occupancy. Additional safeguards may be taken, however, by washing up floors and woodwork with a bichloride solution suggested above, and wiping off the walls with a cloth damped with that solution. Whitewashing can then be done with advantage, and if the paper is in any way in poor condition it had best be replaced.

Diphtheria and the Schick Test.—Children of pre-school age may be immunized against diphtheria at the Homœopathic Hospital, Boston, and everyone, children and adults, may be Schick tested and immunized at the Boston City Hospital.

MEDICAL ADVISORY BOARD MEETING.

In view of the reports emanating from the New York Health Department as to an impending epidemic of influenza in that city, the Medical Advisory Board of the Health Department met January 25 to consider the situation in its relation to Boston. So far as the Board could determine with the facts then before it, there was no reason to anticipate an outbreak of influenza of the fatal type that prevailed in the epidemics of 1918, 1919 and 1920, although it appeared to be not unlikely that there might be some increase in the recurrence of influenza or grippe of the ordinary type, so well known by reason of its occurrence every few years.

TABLE SHOWING CASES, DEATHS AND DEATH RATE PER 10,000 POPULATION FOR PULMONARY AND LARYNGEAL TUBERCULOSIS, AND DEATHS FROM TUBERCULOSIS, ALL FORMS, IN THE CITY OF BOSTON YEARLY, 1905 to 1921, INCLUSIVE.

YEAR.	Cases, Pulmonary and Laryngeal Tuberculosis.†	Deaths, Pulmonary and Laryngeal Tuberculosis.	Death Rate per 10,000 Popula- tion from Pulmonary and Laryngeal Tuberculosis.†	Deaths from All Forms of Tuberculosis.
1905.....	*	1,224	20.47	1,378
1906.....	*	1,185	19.33	1,358
1907.....	2,543	1,138	18.11	1,294
1908.....	2,637	1,094	17.00	1,317
1909.....	2,900	1,072	16.28	1,245
1910.....	3,479	1,163	17.28	1,364
1911.....	3,137	1,067	15.58	1,253
1912.....	3,322	1,093	15.34	1,272
1913.....	3,195	1,064	14.69	1,260
1914.....	2,645	1,045	14.19	1,264
1915.....	2,775	1,034	13.82	1,222
1916.....	2,256	1,112	14.90	1,318
1917.....	2,796	1,148	15.37	1,312
1918.....	2,779	1,186	15.87	1,367
1919.....	2,333	966	12.90	1,147
1920.....	2,308	821	12.72	956
1921.....	2,177	760	11.50	877

* Not recorded. † Laryngeal and general up to 1909. Pulmonary and laryngeal from 1909.

NOTE: Rate for 1921 — 11.50 — represents a decrease of 43.34 per cent over rate for 1905 — 20.47.

AN ICE CREAM WHIM.

A fad of the hour in connection with the ice cream business is the preparation of this product for consumption, covered with a coating of chocolate. In this form there was for a time a tremendous output of ice cream, and for a few days manufacturers had difficulty in supplying the demand. Such popularity, however, was not permanent, and a decrease in sales is already noted. The distributors of this ice cream employed for it a variety of names, probably deemed to be attractive to the public (but on the basis of names much was left for the imagination). Many used the designation "Eskimo Pie," other names were "Alaska Pie," "Chilly Sweets," "Iceberg," "Peary Pie," "North Pole Pie," "Chocolate Frost" and "Puritanette." The opinion that the serving of chocolate-covered ice cream is something new is apparently without justification, for in 1916, in El Paso, Texas, a local confectioner was selling a rounded form of this coated product under the name of "Baseballs."

This department was chiefly interested in the quality of the ice cream, which was being sold locally in this new style, from the bacteriological and chemical standpoints. Consequently a limited number of specimens were examined. From our observations it can be stated that many retailers are not equipped for the proper storage, pending sale, of this variously designated ice cream. Consequently in shops where the demand was small it was not always kept frozen, but was sometimes sold in a semi-solid condition; also, not infrequently, it was distributed after having been in the possession of the retailers for many days.

The results from the bacteriological tests of forty-five (45) specimens on the basis of bacteria to the cubic centimeter follow:

19 contained 1,000,000 or under.

21 contained 1,000,001 to 3,000,000.

5 contained above 3,000,001.

The minimum count obtained was 340,000, the maximum 7,000,000.

All of the samples tested complied with the 7 per cent legal standard for milk fat, the specimens ranging from 9 per cent. fat to 19 per cent., the average was 12.15 per cent.

The above data is of interest for comparison with results obtained from the examination of ice cream under ordinary trade conditions.

Bone and Joint Tuberculosis.—This disease is less common in large cities of the United States than in Europe. The difference has been ascribed to the greater extent to which milk is effectively pasteurized in the American cities.

MORTALITY AND MORBIDITY REPORT—DISEASES DANGEROUS TO THE PUBLIC HEALTH FOR BOSTON AND SURROUNDING CITIES AND TOWNS FOR THE FOUR WEEKS ENDING SATUR- DAY, JANUARY 28, 1922.

CITY OR TOWN.	Estimated Popula- tion.	Total Deaths, All Causes.		Death Rate Per 1,000.	Deaths Under 1 Year.	Deaths Under 5 Years.	DIPHtheria.		SCARLET FEVER.		LOBAR PNEUMONIA.		PULMONARY AND LARYNGEAL TUBERCULOSIS.		MEASLES.		WHOPPING COUGH.		TYPHOID FEVER.	
							Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.
Arlington.....	20,000	17	11.0	2	3	...	2	..	5	1	5	1	4	..	8	..	2	..	...	...
Belmont.....	11,546	11	12.3	1	1	...	1	..	4	...	2	...	...	...	3	..	14	..	...	...
Boston.....	757,634	916	15.7	112	163	20	241	6	210	64	131	46	154	1	296	1	40	..	3	...
Brookline.....	39,548	32	10.5	2	3	...	5	..	7	1	3	...	...	...	1	..	1	..	...	...
Cambridge.....	110,037	122	14.4	23	31	...	15	..	38	8	28	11	19	..	49	..	2	..	1	...
Chelsea.....	43,108	35	10.5	3	3	...	4	..	14	3	10	2	3	..	2	..	...	...	2	...
Everett.....	40,120	28	8.9	5	8	2	14	..	13	1	4	1	2	..	17	..	1	..	...	...
Lynn.....	105,000	80	9.9	10	12	4	45	..	15	4	14	4	12	..	16	..	5	..	1	...
Malden.....	51,547	49	12.3	5	9	2	29	3	28	5	9	2	7	..	5	..	...	...	2	...
Melrose.....	18,371	16	11.3	3	3	...	8	..	4	...	3	1	1	..	25	..	...	...	...	...
Quincy.....	47,876	35	9.7	5	7	...	6	..	16	7	6	...	4	..	60	..	7	..	...	...
Somerville.....	93,091	103	14.2	20	23	1	11	..	14	3	10	3	4	..	54	..	1	..	1	...
Watertown.....	22,500	15	8.6	3	3	...	4	..	1	...	3	2	...	...	10	..	2	..	...	...
Totals.....	1,360,378	1,459	13.9	194	269	29	385	9	369	97	228	73	210	1	546	1	74	1	10	...

REPORTS ON SPECIMENS SUBMITTED TO THE BAC- TERIOLOGICAL LABORATORY FOR EXAMINATION.

1. All specimens for bacteriological or serological examination by the Health Department, left with a culture station before five o'clock p. m., and all such specimens reaching the Health Department, City Hall Annex, before eleven o'clock p. m., will be reported upon on the following day, except specimens of bloods for Wassermann examination. For information as to reports upon specimens of bloods, see paragraph 4.

2. Diphtheria cultures submitted to the Health Department for examination will regularly, *if positive*, be reported upon *by telephone* not later than eleven o'clock a. m. on the day following their submission, and a written report will follow on that day.

Earlier reports can be obtained upon *swabs* presented directly to

the bacteriological laboratory. Upon request, a swab submitted directly to the bacteriological laboratory for diagnosis will be examined microscopically at once and an *immediate report* given, but this can be done only between 9 a. m. and 10 a. m. on Sundays and holidays, between 9 a. m. and 12 m. on Saturdays, and between 9 a. m. and 5 p. m. on other days, but a *negative* result from a swab thus examined is inconclusive. All cultures for diagnosis presented directly to the bacteriological laboratory before noon, except on Saturdays, Sundays and holidays, will be given short incubation, and, if positive, will be reported upon by telephone about 5 p. m., but a *negative* result in these cases, too, is inconclusive. In event of a negative finding in either case named above a regular overnight incubation will be proceeded with and the results reported upon the following day.

3. Diphtheria cultures, if *negative*, and all other specimens, except specimens of bloods submitted for Wassermann examinations, will regularly be reported upon only *by mail*, the report to be mailed on the day following the submission of the specimens.

4. Specimens of bloods submitted for Wassermann examinations received after nine o'clock a. m. on Friday, or at any time on Saturday, Sunday or Monday, will be reported upon in writing, the report to be mailed on Tuesday following the submission of the specimens. Specimens received on Tuesday, Wednesday or Thursday will be reported upon by mail on the day following their receipt.

5. A physician who has submitted a specimen for examination may obtain a report by telephone by calling up the Health Department for that purpose, but no such call should be made earlier than twelve o'clock noon on the day following the submission of the specimen, except that on Sundays and holidays calls may be received and answered at any time after half-past nine o'clock a. m. The telephone call for this purpose is ordinarily Congress 5100, Branch 153. On Sundays and legal holidays, however, the proper telephone call is Congress 5109 up to ten o'clock a. m. and after that hour Congress 5100 or Main 3887.

Isolate all suspicious cases at once. Don't wait for laboratory reports.

Vaccination.—Smallpox is showing both an increase in prevalence in the United States and an increase in the severity of the disease this winter. Vaccination is the only means of controlling smallpox.

SUMMARY OF THE WORK, JANUARY, 1922.

BUREAU OF ADMINISTRATION.

	Jan.	Dec.		Jan.	Dec.
Conferences	2	3	Personnel:		
Hearings	3	3	Appointments	18	2
Prosecutions ordered	53	87	Appointments termi- nated	6	1
Orders	5	5	Appointments made permanent	2	4
Special drafts	1	1	Leaves of absence granted	2	1
Building ordered re- moved	0	1	Salaries increased	2	6
Building ordered vacated, 0	0	1			

LICENSES, PERMITS, ETC., ISSUED.

	Jan.	Dec.		Jan.	Dec.
Burial permits	1,136	1,037	Provisional stable licenses granted	3	1
Disinterment permits	2	7	Sundry	1	0
Undertaker's license	0	4	Stable permit granted	0	2
Milk licenses	113	227	Denatured alcohol licenses, ...	3	0
Milk license revoked	1	0	Manicure-massage: Granted	24	45
Pedlers' licenses, general	22	31	Lying-in hospitals certi- fied	0	3
Hen licenses, granted	60	77	Beverages	13	0
Dump licenses issued	14	19			
Dump licenses refused	0	8			
Lodging house certified	0	1			

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Jan.	Dec.		Jan.	Dec.
Visits by medical inspec- tors	1,435	1,814	Vaccination certificates	7	5
Deaths investigated	21	16	Cases brought to Boston for treatment	62	79
Vaccination	1	7	Antitoxin administered	12	15

NURSING SERVICE.

	Jan.	Dec.
Communicable disease visits	2,939	3,458
Babies visited, first visit	608	806
Revisits	1,612	1,365

HEALTH UNIT (Blossom Street).

	Jan.	Dec.
Health Department proper:		
Vaccinations	4	5
Vaccination certificates issued	12	7
Cases visited by nurses:		
Communicable diseases	94	103
Babies	0	47
Complaints made of insanitary conditions	14	12
Total	94	84

	Jan.	Dec.		Jan.	Dec.
Baby Hygiene Association:			Conferences:		
Babies cared for	301	295	Number	9	6
Babies newly admitted, ...	19	17	Total attendance	266	288
Babies readmitted	0	3	Home visits by nurses	293	238

	Jan.	Dec.
Boston Dispensary:		
Calls by district physician from Boston Dispensary	79	47
Consumptives' Hospital Department:		
Calls by nurses in districts	934	920
Instructive District Nursing Association:		
Visits by nurses	1,851	1,839
Jewish Welfare Center:		
Conferences held	4	4
Number of children attending conferences	150	98
Visitors:		
City	16	12
Out of city	2	4
General:		
Number of persons applying for information	68	94

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Jan.	Dec.
New reports	406	626
Stores inspected	1,937	2,334
Sanitary defects remedied	264	306
Complaints at office	37	27
Referred to Sanitary Division	19	45
Milk applications approved	149	215
Peddlers:		
Applications for licenses approved	11	31
Vehicles inspected and approved	77	706
Court cases	56	70
Fines	\$745	\$1,630

CONDEMNATIONS.

REQUESTED.

Apples, canned	24 cans		Olives (greek style)	1 barrel
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WITHOUT REQUEST.

Baby barley	7 pounds	Poultry	22 pounds
Candy	20 pounds	Prunes	400 pounds
Chestnuts	2,000 pounds	Potatoes	7,050 pounds
Chickens and fowl	35 pounds	Rabbits	138 pounds
Clams	5 cans	Sheep	10 pounds
Corn	4 cans	Sardines	40 cans
Lemon powder	5 pounds	Smoked pork	75 pounds
Macaroni	8 pounds	Squash	3,080 pounds
Peas	7 cans	Walnut meat	9,550 pounds
Pork	50 pounds	Pineapples	2 cans

Samples submitted to Chemical Laboratory:

Butter	3	Drugs	1
Bottles for bacteria	36	Meat	1
Caps for bacteria	32	Scallops	4
Olive oil	1	Eggs	2
Salt	1	Cake	1
Celery	1	Oysters	9

LIVE STOCK INSPECTION (Brighton Abattoir).

	Jan.	Dec.		Jan.	Dec.
Cattle inspected . . .	38	536	Parts condemned . . .	249	375
Calves inspected . . .	1,081	417	Animals condemned . . .	3	12
Swine inspected . . .	7,475	8,102			

DAIRY DIVISION.

	Jan.	Dec.		Jan.	Dec.
Dairies inspected . . .	263	162	With milk rooms . . .	164	101
Scoring above 50 * . . .	198	125	Without milk rooms . . .	99	61
Scoring below 50 . . .	65	37	Inactive . . .	5	8

BUREAU OF MILK INSPECTION.

	Jan.	Dec.		Jan.	Dec.
Chemical Inspection of:			Bacteriological examination of:		
Milk	1,497	1,597	Milk	877	911
Ice cream	1	7	Ice cream	22	22
Vinegar	64	0	Court cases	16	39
Miscellaneous	26	13	Fines	\$220	\$450

SANITARY INSPECTION.

	Jan.	Dec.		Jan.	Dec.
Original inspections . . .	1,302	1,138	Car reports	1,269	975
New reports	1,871	1,451	Complaints	816	490
Reinspections	6,065	4,495	Court cases	95	81
Legal notices served . . .	437	365	Fines	\$81	\$21

HOUSING SERVICE.

	Jan.	Dec.		Jan.	Dec.
Interior rooms lighted and ventilated	10	6	Water-closets:		
Water-closets:			Newly installed	31	6
Interior lighted and ventilated	41	64	Old buildings removed	7	2
			Houses connected to sewers	5	0

* Passable mark.

BACTERIOLOGICAL LABORATORY.

	Jan.	Dec.
Examinations for diagnosis and release:		
Diphtheria	2,284	2,096
Tuberculosis	272	224
Typhoid	35	39
Gonorrhea	561	550
Gonorrheal ophthalmia	59	45
Syphilis	1,115	963
Other examinations	† 24	* 25
Bacteriological examinations of milk	732	837
Examination of rats	973	939

* Malaria, 5; genito-urinary, T. B., 4; dark field examinations, 2; walnuts for parasites, 1; beef decomposition, 1; virulence tests, 4; smear for leprosy, 1; olives for botulinus and decomposition 1; water for sewage, 1; spinal fluid for meningococci, 2; clams for B. coli, 1; chicken for decomposition, 1.

† Malaria, 4; genito-urinary, T. B., 6; blood for paratyphoids, 2; neck of lamb for pathogenic organisms, 1; olive oil for poisons, 1; smear for staphylococcus aureus, 1; effusion from chest for pus, 1; blood for Conradi test, 1; flour for pathogenic organisms, 1; pork for trichinae, 5; salt for organisms, 1.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING DECEMBER, 1921.

CLASSIFICATION.	Number.	Percentage.
After death.....	3	8.10
7 days or less.....	1	2.70
8 to 14 days, inclusive.....	2	5.40
15 to 21 days, inclusive.....		
22 to 31 days, inclusive.....	3	8.10
WITHIN FIRST MONTH.....	9	24.30
Within second month.....	1	2.70
Within third month.....	1	2.70
Within fourth month.....	3	8.10
Within fifth month.....	1	2.70
Within sixth month.....	2	5.40
Within seventh month.....	3	8.10
Within eighth month.....		
Within ninth month.....	1	2.70
Within tenth month.....	1	2.70
Within eleventh month.....	1	2.70
Within twelfth month.....		
WITHIN FIRST YEAR PRECEDING DEATH.....	23	62.10
Within second year.....	4	10.81
Within third year.....	5	13.51
More than three years.....	5	13.51
Totals.....	37	99.93

DEATHS AND DEATH RATES FOR CERTAIN CITIES, JANUARY, 1922.

CITY.	Popula- tion Esti- mated July 1, 1921.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		Jan. 7.	Jan. 14.	Jan. 21.	Jan. 28.	Jan. 7.	Jan. 14.	Jan. 21.	Jan. 28.
Boston.....	757,634	211	222	257	226	14.4	15.3	17.5	15.6
Bridgeport, Conn.....	149,967	32	33	42	34	11.6	12.0	15.3	12.4
Cambridge.....	110,444	34	31	30	27	16.1	14.6	14.2	12.7
Fall River.....	120,668	28	33	31	32	12.1	14.3	13.4	13.8
Lowell.....	113,757	36	38	24	39	16.5	17.4	11.0	17.9
New Bedford.....	125,012	26	21	34	26	10.8	8.8	14.2	10.8
Providence, R. I.....	239,645	70	74	73	75	15.2	16.1	15.9	16.3
Springfield.....	135,877	37	29	26	35	14.2	11.1	10.0	13.4
Worcester.....	184,972	50	47	59	47	14.1	13.2	16.6	13.2

VITAL STATISTICS, JANUARY, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JANUARY,
1922, WITH COMPARATIVE FIGURES FOR JANUARY, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,018	944	+74	15.98	14.95	+1.03
Nonresidents deducted.....	894	779	+115	14.04	12.33	+1.71
BY AGE:						
Under one year.....	132	124	+8	2.08	1.96	+.12
One year to four years, inclusive.....	58	36	+22	.91	.57	+.34
Sixty years and over.....	413	385	+28	6.49	6.09	+.40
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	71	63	+8	1.11	.99	+.12
Arterio-sclerosis.....	49	47	+2	.76	.74	+.02
Heart disease.....	187	143	+44	2.93	2.26	+.67
Nephritis, chronic.....	46	55	-9	.72	.87	-.15
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,323	1,377	-54	20.77	21.81	-1.04
b. Registered stillbirths.....	48	52	-6	.75	.82	-.07
Stillbirths per 1,000 births and stillbirths, ...				33.55	42.74	-9.19
c. Deaths of mothers from causes incident to childbirth.....	16	13	+3	.25	.20	+.05
Deaths of mothers per 1,000 births and stillbirths.....				11.67	9.09	+2.58
d. Deaths of children in first year of life. . .	132	124	+8	2.08	1.96	+.12
Deaths in first year per 1,000 live births, ...				99.77	90.05	+9.72
VIOLENCE:						
Accidents.....	50	49	+1	.78	.77	+.01
Homicides.....	7	.....	+7	.11	.....	+.11
Suicides.....	4	5	-1	.07	.08	-.01
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	11	5	+6	.17	.08	+.09
Broncho-pneumonia.....	52	55	-3	.82	.87	-.05
Cancer.....	96	92	+4	1.51	1.45	+.06
Cirrhosis of the liver.....	9	3	+6	.14	.05	+.09
Diabetes mellitus.....	12	14	-2	.19	.22	-.03
Diarrhoeal diseases, children under two years of age.....	7	7	.....	.11	.11	.....

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

		CASES AND DEATHS.					
		ACTUAL NUMBER.			RATE PER 1,000 POPULATION.		
		1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease
COMMUNICABLE DISEASES:							
Anterior poliomyelitis.....	Cases.....		2	—2		.03	— .03
	Deaths.....		1			.01	— .01
Cerebro-spinal meningitis.....	Cases.....	3	5	—2	.05	.07	— .02
	Deaths.....	1	1		.01	.01	
Diphtheria.....	Cases.....	278	371	—93	4.37	5.87	—1.50
	Deaths.....	22	9	+13	.34	.14	+ .20
Influenza.....	Cases.....	67	25	+42	1.05	.39	+ .66
	Deaths.....	7	4	+3	.11	.06	+ .05
Measles.....	Cases.....	359	251	+108	5.64	3.97	+1.67
	Deaths.....	1	3	—2	.01	.05	— .04
Pneumonia, lobar.....	Cases.....	143	147	—4	2.24	2.32	— .08
	Deaths.....	72	71	+1	1.13	1.12	+ .01
Scarlet fever.....	Cases.....	232	213	+19	3.64	3.37	+ .27
	Deaths.....	6	5	+1	.09	.07	+ .02
Tuberculosis (pulmonary).....	Cases.....	162	186	—24	2.54	2.94	— .40
	Deaths.....	53	57	—4	.83	.90	— .07
Tuberculosis (other forms).....	Cases.....	25	28	—3	.39	.44	— .05
	Deaths.....	6	9	—3	.09	.14	— .05
Typhoid fever.....	Cases.....	5	4	+1	.08	.06	+ .02
	Deaths.....		1	—1		.01	— .01
Whooping cough.....	Cases.....	43	75	—32	.67	1.18	— .51
	Deaths.....	1	3	—2	.01	.05	— .03

This table includes all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above the estimated populations for January, 1922 and 1921, based upon the federal census of 1920, have been used.

In a letter to the "Boston Medical and Surgical Journal" of January 26, 1922, Dr. William H. Devine, Director of Medical Inspection, Boston public schools, describes the work that is being done under his direction in Schick testing and immunizing against diphtheria, pupils in the William L. Garrison School, Dorchester.

The work is proceeding successfully and arrangements are being made to extend it to the George Putnam School. The Schick testing was begun in the Garrison School on November 1, 1921, and up to the date of Doctor Devine's letter 531 children had been tested, 373 of whom gave positive reactions. There were nine combined and one pseudo reactions. At the time of Doctor Devine's letter only about 50 per cent of the parents of the children showing positive reactions had given consent to the toxin-antitoxin immunization.

MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

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BOSTON, FEBRUARY, 1922.

NO. 2

CHANGE IN HEALTH COMMISSIONERS.

Dr. William C. Woodward, Health Commissioner since August 1, 1918, when he was appointed by former Mayor Peters, resigned from this position to take effect February 4, 1922.

Mayor Curley has appointed as his successor Dr. Francis X. Mahoney, who held this position previous to the appointment of Doctor Woodward.

Doctor Mahoney has had long experience in public health affairs, particularly in those of Boston. He was first appointed to the Board of Health in 1910, serving continuously for eight years as a member of the Board of Health and later as chairman of the Board. After the change in the city ordinances in 1916, which provided for the control of the department by one official, he served as Health Commissioner. At that time an attempt was made to obtain the services of Dr. Richard S. Creel of the Federal Health Service for the position of Health Commissioner, but in the course of the investigation of health conditions in Boston it was stated that the protection of the health of the community under Doctor Mahoney's administration as chairman of the Board of Health had been unequaled by any city in the country. Consequently Mayor Curley appointed Doctor Mahoney to the new position.

TONIC LICENSE INSPECTION.

Inspection of establishments requesting permits to engage in the business of manufacturing or bottling of carbonated non-alcoholic beverages, soda waters, mineral or spring waters was provided for under chapter 303 of the Acts of 1921.

This act was approved by the Governor of Massachusetts April 21, 1921, to take effect in ninety days. The Health Department did not begin to enforce it until December, 1921, because the rules and regulations providing for their conduct had not been adopted. An additional reason was the fact that the department did not desire to drive any manufacturer or bottler out of business before he had been given a reasonable time to comply with the law.

When formal inspections were begun there were about sixty places in Boston to which the provisions of the tonic law applied. To date all known places have been inspected. Twenty-three establishments were approved upon inspection or after small changes were made. Of the other thirty-seven, some were disapproved because of their location, others because of general insanitary conditions, and still others for lack of proper equipment.

As was expected, the investigators in some cases found many peculiar conditions. At the place of one applicant, the tonic was being manufactured and bottled in the cellar of an old two-family wooden house. The cellar itself was dirty, dark and poorly ventilated. The inspection was made with the aid of a lantern, because there was neither gas nor electricity in the cellar. The walls and ceiling were unfinished and dirty. The equipment was inadequate; bottles were being washed in a wooden sink which was not provided with hot water. Further comment as to the notification of the applicant of the refusal of a permit is needless. This was not the only case; in fact, the proprietor of another cellar establishment had to be prosecuted before he would stop manufacturing and bottling. This man now has a model plant in a two-story brick building, which is a source of great pride to its owner.

In another establishment, located in the basement of a large tenement house, the department found that the applicant was making "moonshine," while at the same time he conducted a bottling business under very insanitary conditions. That same day the police raided the premises, securing large quantities of contraband articles. The proprietors are now out of business.

Six firms were found to be doing business in cellar locations. Of this number four have either moved to other places or have signified their intention of locating in establishments that are up to date and meet the standards of the Health Department. It may also be said that about all the applicants who intend to comply with the legal

requirements have ordered efficient washing machines for the sterilization of bottles. Officials of the bottlers' association have agreed that a wooden tank is not conducive to proper sterilization.

CASES OF TRICHINOSIS IN BOSTON.

During the early part of this month four cases of typhoid fever in the same household were reported to the Health Department by the attending physician. The appearance, simultaneously, of so many cases of this disease in a neighborhood where no case had occurred for a long time demanded an immediate investigation by the department.

The investigation showed that the physician had diagnosed and reported the disease as typhoid fever from clinical symptoms alone, the symptoms being so acute that the patients were sent to the hospital, where they remained with the diagnosis undetermined until death occurred in two of the cases about a week after admission. Autopsy then showed that the cause of death was trichinosis.

The incident emphasizes the fact that the eating of raw pork in the form of home-made or "summer" sausage still persists in a number of families, and another warning of the danger of this practice is necessary, particularly at this season of the year when there is an increase in the consumption of pork products.

All pork and pork products should be thoroughly cooked to a temperature of at least 140 degrees Fahrenheit, necessary to destroy the harmful parasites in the raw meat, before they are taken into the system as food. Cases of trichinosis must be reported to the Boston Health Department by all physicians as soon as the disease is recognized.

INFLUENZA DURING FEBRUARY.

During the month of February there prevailed in Boston in epidemic form an infection of the upper respiratory passages, accompanied by marked constitutional symptoms and a temperature perhaps as high as 103 degrees Fahrenheit. In many instances patients were confined to their beds from two or three days to a week. This infection, which local physicians hesitated to report as influenza, was not accompanied by any unseasonable increase in mortality from pneumonia. The extent to which the cases above described were reported by physicians is indicated in the table given below. It may be safely stated that in a general way the increase and decrease in the daily reports of these so-called cases of influenza represents the rise and fall in prevalence of this epidemic. Information furnished the Health Department by large local employ-

ers of labor has made it evident that the epidemic was really a much more serious matter economically than would appear from the magnitude of the figures given in this table.

WEEK ENDING	CASES.		DEATHS BY DATE OF DEATH.	
	Influenza.	Lobar Pneumonia.	Influenza.	Lobar Pneumonia.
February 4.....	148	49	3	3
February 11.....	367	67	2	21
February 18.....	462	61	8	32
February 25.....	349	84	11	43
BY DAYS.				
February 1.....	21	1	1	.....
February 2.....	11	9	2	1
February 3.....	35	14	.....	1
February 4.....	56	13	.....	1
February 5.....	23	8	.....	4
February 6.....	61	3	.....	1
February 7.....	43	13	.....	3
February 8.....	66	11	.....	5
February 9.....	57	10	1	4
February 10.....	52	8	.....	2
February 11.....	65	14	1	2
February 12.....	47	5	1	2
February 13.....	62	4	.....	7
February 14.....	88	14	1	5
February 15.....	45	10	3	7
February 16.....	86	11	2	3
February 17.....	86	11	.....	6
February 18.....	48	6	1	2
February 19.....	26	8	.....	5
February 20.....	51	12	2	7
February 21.....	70	16	2	6
February 22.....	29	14	.....	8
February 23.....	71	10	5	7
February 24.....	44	19	2	5
February 25.....	57	5	.....	5
February 26.....	30	7	1	3
February 27.....	20	7	2	6
February 28.....	30	19	1	4
Total.....	1,380	282	28	112
Totals for January, 1922.....	67	143	7	72

SUNSHINE, THE LIFE GIVER.

Experiments have shown that when rats are put on a diet so deficient in character or variety as to be capable of producing rickets, the rats will not develop rickets provided that they be kept in the sunlight. Post-mortem examinations of such rats showed that while their deficient diet failed to supply them with the chemical elements necessary for the formation of perfectly normal bones, the sunlight nevertheless in some way made it possible for the rats to so utilize the elements supplied in their deficient diet as to escape the actual development of rickets. Experiments have also shown that the treatment of rickets in human beings is markedly helped by keeping patients out in the sunshine or by exposing them to direct sunlight in a sanitarium.

It has long been known that cod liver oil possesses a similar property of preventing rickets and of promoting the dietary treatment of the disease. This property of cod liver oil is ascribed to a life-giving element of cod liver oil which has come to be designated as a vitamine. Vitamines, whether of cod liver oil or of the germ of wheat or of green vegetables, or of fruit, apparently supply the body with something which enables the body to utilize to better advantage the chemical constituents of the food. It would seem that we are now finding indications that this same something which has come to be called a vitamine when put into the body in conjunction with food may also be supplied to the body through sunshine.

Entirely apart from speculation regarding the vitamine attributes of sunlight, we have sufficient practical proof of its beneficent influence on nutrition and general bodily welfare to call for the more consistent utilization of sunlight for these purposes. However it may do it, the sun-bath has been shown to be a most important adjunct to other treatment of tuberculosis bone infections.

Sunshine has also a specific effect on other infections. Sunshine and open air or even sun-baths hasten convalescence from acute infectious diseases, it cleans up the persistent meningococcus or diphtheria carrier, and not only helps rickets but also helps other conditions due to nutritional derangements. The sun-bath may not cure fits but it may relieve insomnia.

The therapeutic value of sunshine in all the instances mentioned, and in many others, is well recognized, and to some extent utilized, but not nearly to the extent that it might be.

Exposure to direct rays of the sun has, of course, its dangers. More often the bad effects of sunshine are, however, due not so much to the direct action of the sun's rays as to the temperature and moisture of the atmosphere and the consequent inability of the

body to radiate its internal heat with sufficient rapidity to keep the bodily temperature below the danger point. Such inability of the body to rid itself of unnecessary heat may be merely a matter of improper clothing. But the sun's rays alone are capable of producing a severe local cellulitis and of causing perhaps even more serious bodily damage if the naked skin be exposed too long to direct sunshine before giving the body time to adjust itself by developing a protective pigmentation. Exposure to the sun's rays must be given in graduated dosage to those unaccustomed to it.

THE SCHICK TEST AND DIPHTHERIA PREVENTION.

The Schick test, properly applied, will determine readily the susceptibility of every person to diphtheria. The test consists of the injection into the skin, usually of the forearm, of a small amount of properly diluted toxin, which causes an inflammatory reaction when injected into susceptible tissues. A positive reaction shows susceptibility and a possibility of contracting the disease. A negative reaction shows immunity, but a person showing immunity may become a carrier of virulent diphtheria organisms although unable to develop the disease clinically.

In order to obtain favorable results, however, it is essential that the toxin used for the test be of standard strength, that the introduction into the skin be intradermal and not subcutaneous, and that the interpretation of the reaction be correctly determined.

It is now pretty generally agreed throughout the country that the dilution of the toxin should be one fiftieth of a minimum lethal dose for the guinea pig in 0.1 cubic centimeters of normal saline solution. This standard is readily obtained if the outfit supplied by the State Department of Public Health is used and provided that the directions contained therein are carefully carried out. This diluted toxin must be used within a few hours after mixing, because it rapidly loses its potency when exposed to light and room temperature.

A 1 cubic centimeter Record syringe with a 26 or 27 gauge $\frac{1}{4}$ -inch steel needle or the McGregor outfit (Vein) is best suited for this purpose. Sterilization of the syringe and needle by boiling or with alcohol is essential. If alcohol is used it must be rinsed out of the syringe with some of the diluted toxin and the rinsings discarded before making the test. It is a good plan always to use the right forearm for the test and the left forearm for the control, thus systematizing the work so as to know where to look for the reactions and how to interpret them uniformly. Bad results are quite apt to

follow the inaccurate dilution of the toxin. The skin of the flexor surfaces of both forearms in the region of three or four inches below the elbows is cleansed with alcohol or ether and the injections as described above are carried out. The control test is performed with toxin which has been heated to 75 degrees centigrade for ten minutes, which destroys the toxin but does not affect the autolyzed protein.

A positive reaction which represents the irritant reaction of the diphtheria toxin and therefore indicates that the individual has little or no antitoxin in the blood and is susceptible to the disease, is noticeable at the site of injection, within twenty-four to thirty-six hours. The reaction appears as a definite circumscribed area of redness about one to two centimeters in diameter. This becomes more marked in two or three days and reaches its height on about the fourth or fifth day, and after persisting for about a week gradually fades, leaving a scaly, brownish pigmented spot.

In a negative reaction the skin at the site of the inoculation remains unchanged.

A pseudonegative reaction which may appear in older children and adults is in the nature of an anaphylactic reaction. This appears earlier and reaches its height at the end of twenty-four hours. The control test will identify and distinguish the pseudonegative from the positive, in that both the test and control will show similar reactions.

A positive combined reaction may also occur among adults. It represents both the positive and the pseudo reaction and is recognized at the end of about ninety-six hours by a well defined positive reaction at the point of the test and a partly faded pseudo-reaction at the site of the control.

Diphtheria immunization may require three months or longer to develop, but will last for years and possibly for life. The immunization consists of three doses of toxin-antitoxin mixture of one cubic centimeter each, undiluted, subcutaneously, at intervals of seven to ten days.

In spite of the fact that we have at hand the necessary diagnostic, preventive and control agencies, the incidence of diphtheria in Boston the past year has shown a decided rise above that of the preceding year. The need of improvement over such a showing is obvious. The Massachusetts Homoeopathic Hospital has started a clinic for children under five years of age for the application of Schick and toxin-antitoxin methods. The clinic is open on Tuesdays at 2 p. m., and is located at 750 Harrison avenue, this city.

The South Department, Boston City Hospital, has been giving similar treatment to those who have applied.

The Hygiene Division of the Boston School Department has started Schick and toxin-antitoxin methods in about 60 per cent of a large school district.

While this is a start in the right direction, much still remains to be done before the Schick discovery can be regarded as being utilized on a scale which may be expected to show definite results in a permanently lowered incidence of diphtheria.

PREVENTION OF FOOD POISONING.*

"In spite of the publicity that has been given to this subject in the last few years, the constant recurrence of cases or groups of cases of botulism shows that many people have entirely failed to understand its real dangers or the means that may be taken to avoid it. Without forgetting the remote possibility of an occasional infection, botulism may be characterized as a food toxemia. The organism must first develop in the food and produce the poison, then the food must be eaten or there is no disease. Proper advice upon the care and inspection of food products is fundamental in preventing botulism. There is great need, therefore, that every food or health official should not only be familiar with the essential precautions himself, but that he should bring them effectively to the attention of the whole public for whose safety he is responsible. The campaign of prevention should be carried to the packer, the dealer and the final purchaser of food products. Each has a share in the responsibility for such poisoning and each should understand clearly certain characteristics of the causal organism. The packer must use the best known method in putting up food, the dealer must give it intelligent care and scrutiny, but the one who prepares it for the table is the final protector of the life of the consumer.

"The association of physical signs of spoilage with toxicity can be easily over-emphasized, but scrupulous examination of many series of samples in the toxic condition shows that evidence of spoilage is rarely, if ever, absent in the dangerous sample. Cooking all canned food before consumption is an adequate precaution and should be resorted to in cases of doubt or of ignorance of normal characteristics. In series of commercial canned products . . . in which the analyst was already familiar with the product, samples selected as sound and in wholesome condition have never proved toxic in feeding experiments and have never shown evidence of bacterial activity when tested by culture. Physical evidence of spoilage has, on the other hand, been consistently supported by

* From "Botulism from the Regulatory Viewpoint." Charles Thom, Ph.D., Mycologist, Bureau of Chemistry, Washington, D. C. From "American Journal Public Health," p. 49, January, 1922.

bacteriological examination. Among spoiled products no one of us who has actually handled the material dares pretend to say which of many spoiled products will prove toxic. The typical 'botulinus odor' does not exist to us. Samples which have proved poisonous give off odors which are usually almost putrefactive or are at least more or less indicative of protein decomposition. There is, however, so little agreement in nomenclature of smells that the presence of a definitely abnormal odor should be sufficient to condemn the product.

Transformed into concrete suggestions, responsibility for food poisoning, in so far as canned foods are concerned, rests about equally upon the dealer and upon the household. Every dealer should be made to feel a direct and positive obligation to remove from sale any can of food which shows sign of spoilage, and to condemn as dangerous and return to the packer any lot in which spoilage appears in considerable percentage. Correspondingly, some one, at least, in every household should definitely understand the dangers of spoiled food, canned or uncanned, make intelligent examination of all food bought and apply discriminating care to all food stored in the home.

"As a basis for propaganda to eliminate the danger of poisoning cases, this discussion leads directly to a series of recommendations which may be given the widest publicity.

"a. Clean, fresh, sound food will not cause botulism.

"b. Food freshly heated to the boiling point will not cause botulism.

"c. Recooking is advised whenever opportunity for microbial activity has been given, but only before spoilage becomes evident by appearance, odor or taste. Food showing signs of decomposition is potentially dangerous, hence physical evidence of spoilage should lead to destruction, not to salvaging.

"d. Intelligent co-operation of packers, dealer, and householder in the examination of food before it reaches the table is essential to the prevention of botulism."

"BUILD-OUT" THE RAT.

"The rat is the worst animal pest in the world.

"From its home among filth it visits dwellings and storerooms to pollute and destroy human food.

"It carries bubonic plague and many other diseases fatal to man and has been responsible for more untimely deaths among human beings than all the wars of history.

"In the United States, rats and mice each year destroy crops and other property valued at over \$200,000,000.

"This destruction is equivalent to the gross earnings of an army of over 200,000 men.

"On many a farm, if the grain eaten and wasted by rats and mice could be sold, the proceeds would more than pay all the farmer's taxes.

"The common brown rat breeds six to ten times a year and produces an average of ten young at a litter. Young females breed when only three or four months old.

"At this rate a pair of rats, breeding uninterruptedly and without deaths, would at the end of three years (eighteen generations) be increased to 359,709,482 individuals." (United States Department of Agriculture.)

In view of the above facts the Health Department cannot too strongly advise the necessity for rat prevention and elimination. This can best be done by "building out." Persons about to build should insist that there be incorporated in plans for buildings of any sort a sufficient amount of ratproofing to prevent the entrance of rats. This is an economic problem as well as a health one, and is a community proposition in which both laity and physician as well as laborer and artisan should be interested. Let the engineer and the architect, the builder and the contractor encourage ratproofing wherever and whenever they can.

SOME MISUNDERSTANDINGS.

That

Malaria is due to night air.

Red flannel is more effective than white flannel.

Every child must have certain communicable diseases.

Leaky drains or offensive sewers cause typhoid fever.

Tuberculosis is hereditary.

Defective plumbing causes diphtheria.

Blood of carnivorous animals in its raw state is good to drink.

The heat of the day produces fever.

By sticking to your work, though ill, you can fight off a disease.

Vaccination against smallpox or typhoid fever is worse than the disease.

Only cold weather is fresh or healthy.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING FEBRUARY, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	15	23.08
7 days or less.....	5	7.69
8 to 14 days, inclusive.....	4	6.15
15 to 21 days, inclusive.....	2	3.08
22 to 31 days, inclusive.....	1	1.54
WITHIN FIRST MONTH.....	27	41.54
Within second month.....	7	10.77
Within third month.....	2	3.08
Within fourth month.....	3	4.62
Within fifth month.....	3	4.62
Within sixth month.....		
Within seventh month.....	1	1.54
Within eighth month.....		
Within ninth month.....	2	3.08
Within tenth month.....	3	4.62
Within eleventh month.....	1	1.54
Within twelfth month.....		
WITHIN FIRST YEAR PRECEDING DEATH.....	49	75.41
Within second year.....	7	10.77
Within third year.....	3	4.62
More than three years.....	6	9.23
Total.....	65	100.03

DEATHS AND DEATH RATES FOR CERTAIN CITIES, FEBRUARY, 1922.

CITY.	Popula- tion Esti- mated July 1, 1921.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		Feb. 4.	Feb. 11.	Feb. 18.	Feb. 25.	Feb. 4.	Feb. 11.	Feb. 18.	Feb. 25.
Boston.....	757,634	229	219	245	327	15.8	15.1	17.8	22.5
Bridgeport, Conn.....	149,967	55	41	35	51	20.0	14.9	12.7	18.5
Cambridge.....	110,444	33	23	33	41	15.6	10.9	15.6	19.4
Fall River.....	120,668	49	41	29	59	21.2	17.7	12.5	25.5
Lowell.....	113,757	23	34	45	46	10.5	15.6	20.6	21.1
New Bedford.....	125,012	27	36	45	42	11.3	15.0	18.8	17.5
Providence, R. I.....	239,645	73	69	88	113	15.9	15.0	19.1	24.6
Springfield.....	135,877	37	26	39	34	14.2	10.0	15.0	13.0
Worcester.....	184,972	63	85	55	65	17.8	24.0	15.5	18.3

RULES OF HYGIENE.

1. Ventilate every room you occupy.
2. Wear loose, porous clothing suited to season, weather, and occupation.
3. If you are an indoor worker, be sure to get recreation outdoors.
4. Sleep in fresh air always; in the open if you can.
5. Hold a handkerchief before your mouth and nose when you cough or sneeze and insist that others do so too.
6. Always wash the hands before eating.
7. Do not overeat. This applies especially to meats and eggs.
8. Eat some hard and some bulky foods; some fruits.
9. Eat slowly — chew thoroughly.
10. Drink sufficient water daily.
11. Evacuate thoroughly, regularly.
12. Stand, sit, and walk erect.
13. Do not allow poisons and infections to enter the body.
14. Keep the teeth, gums, and tongue clean.
15. Work, play, rest, and sleep in moderation.
16. Keep serene. Worry is the foe of health. Cultivate the companionship of your fellow men.
17. Avoid self drugging. Beware the plausible humbug of the patent medicine faker.
18. Have your doctor examine you carefully once a year. Also consult your dentist at regular intervals.— (U. S. P. H. S.)

WEAPONS AGAINST DISEASE: USE THEM.

SMALLPOX.

Vaccination prevents smallpox. No smallpox epidemic was ever checked except by vaccination. Vaccination takes effect in four or five days after inoculation. A successful vaccination in childhood may protect for life, but the protection afforded by vaccination is likely to disappear in five or six years and possibly sooner.

TYPHOID FEVER.

Practically as much was known about the manner of the spread of typhoid fever at the time of the Spanish War as during the World War. When peace was concluded with Spain the American army was seriously crippled by typhoid fever. Typhoid fever was a negligible factor as a cause of disability in any army during the World War. The difference was due to the fact that vaccination against typhoid fever had not been developed in 1898. Three hypodermic injections at weekly intervals and a few hours of headache and "mean" feeling or perhaps no symptoms whatever are all that is necessary for one to go through now to secure a reasonable protection against both typhoid and paratyphoid fevers.

DIPHTHERIA.

A harmless, painless injection of a few drops of a toxin solution in the skin will tell you in four days whether you are naturally immune to diphtheria or not. If you are not, three hypodermic infections of another mixture will assure you of the gradual development of a natural immunity, so that after six months you need no longer fear diphtheria.

INFANT MORTALITY STATISTICS FOR TEN LARGEST CITIES FOR 1921.

IN BIRTH REGISTRATION AREA.

	Reported Births.	Deaths Under One Year.	Rate Per 1,000 Babies Born.
Los Angeles.....	13,655	836	66.13
New York.....	134,240	9,548	71.10
Cleveland.....	20,283	1,482	73.10
Boston.....	19,386	1,495	77.12
Philadelphia.....	43,434	3,381	77.80
Detroit.....	27,561	2,304	83.60
Baltimore.....	18,808	1,597	84.90
Pittsburgh.....	16,193	1,517	93.60

NOT IN BIRTH REGISTRATION AREA.

St. Louis.....	16,050	937	61.70
Chicago.....	56,543	5,071	89.68

CITY OF BOSTON—HEALTH DEPARTMENT.
(Co-operating with the Boston Clean-up Committee.)

EVERY WEEK A CLEAN-UP WEEK.

AN APPEAL TO HOUSEHOLDERS.

Boston should be the Cleanest, Healthiest and Happiest City in the World. With your help, it may be. Will you not begin now by helping to keep the city clean?

F. X. MAHONEY,
Health Commissioner.

1. Keep your own house and yard, including your alleyways and passageways and the cellar, clean. If you live in an apartment, keep your own apartment clean, and do what you can to keep the rest of the premises in proper condition.

2. Throw no garbage, ashes, or trash into the hallways, bathrooms, water-closets, or areaways, or on the stairs. If an accident happens, clean up at once.

3. For garbage, provide a water-tight, covered receptacle, preferably of metal. For ashes and rubbish the law requires metal receptacles.

4. If your garbage, ashes, or rubbish, is not taken away when it should be, report to the Department of Public Works, Room 508, City Hall Annex. Telephone call, Congress 5100, Branch 253.

5. Be careful when using water-closets, bathrooms and sinks. See that your children are careful, too. If an accident happens, clean up at once.

6. Let plenty of light and air into your rooms. Keep your windows clean and open.

7. Do not overcrowd your rooms. You cannot get enough light and air in if you overcrowd.

8. Keep clean your kitchen, your refrigerators, and all pots, pans, dishes, etc., used in caring for and serving food.

9. Put nothing on your fire escape. It may be in your way in case of fire.

10. If you feel that your neighbor does not do his part to keep the premises in good order, and if you live in rented premises and feel that your landlord does not do his part, talk to him about it. If you do not get satisfaction, report the matter to the Health Department, Room 1111, City Hall Annex. Telephone call, Congress 5100, Branch 167.

SUMMARY OF THE WORK, FEBRUARY, 1922.

BUREAU OF ADMINISTRATION.

	Feb.	Jan.		Feb.	Jan.
Conferences	1	2	Personnel:		
Hearings	2	3	Appointments	2	18
Prosecutions ordered	16	53	Appointments terminated	0	6
Orders	4	5	Appointments made permanent	0	2
Special drafts	1	1	Leaves of absence granted	0	2
Building ordered re-moved	1	0	Salaries increased	0	2
Building ordered vacated, ...	3	0			

LICENSES, PERMITS, ETC., ISSUED.

	Feb.	Jan.		Feb.	Jan.
Burial permits	1,229	1,136	Sundry	2	1
Disinterment permits	6	2	Stable permit granted	1	0
Undertaker's license	0	0	Denatured alcohol licenses, ...	4	3
Milk licenses	189	113	Manicure-massage:		
Milk license revoked	0	1	Granted	28	24
Pedler's licenses, general	38	22	Beverage establishment licensed	9	13
Hen licenses, granted	24	60	Beverage establishment refused	25	0
Dump licenses issued	8	14			
Provisional stable licenses granted	1	3			

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Feb.	Jan.		Feb.	Jan.
Visits by medical inspectors	1,770	1,435	Vaccination certificates	2	7
Deaths investigated	24	21	Cases brought to Boston for treatment	94	62
Vaccination	5	1	Antitoxin administered	3	12

NURSING SERVICE.

	Feb.	Jan.
Communicable disease visits	4,027	2,939
Babies visited, first visit	512	608
Revisits	713	1,612

HEALTH UNIT (Blossom Street).

	Feb.	Jan.
Health Department proper:		
Vaccinations	5	4
Vaccination certificates issued	1	12
Cases visited by nurses:		
Communicable diseases	171	94
Complaints made of insanitary conditions	6	14
Total	171	94

	Feb.	Jan.		Feb.	Jan.
Baby Hygiene Association:			Conferences:		
Babies cared for	308	301	Number	8	9
Babies newly admitted, ...	13	19	Total attendance	233	266
Babies readmitted	0	0	Home visits by nurses	371	293

	Feb.	Jan.
Boston Dispensary:		
Calls by district physician from Boston Dispensary	161	79
Consumptives' Hospital Department:		
Calls by nurses in districts	639	934
Instructive District Nursing Association:		
Visits by nurses	2,074	1,851
Jewish Welfare Center:		
Conferences held	4	4
Number of children attending conferences	160	150
Visitors:		
City	18	16
Out of city	1	2
General:		
Number of persons applying for information	57	68

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Feb.	Jan.
New reports	506	406
Stores inspected	1,751	1,937
Sanitary defects remedied	183	264
Complaints at office	40	37
Referred to Sanitary Division	20	19
Milk applications approved	130	149
Street stands inspected	22	0
Peddlers:		
Applications for licenses approved	42	11
Vehicles inspected and approved	476	77
Court cases	74	56
Fines	\$375	\$745

CONDEMNATIONS.

REQUESTED.

Cheese	448 cans
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WITHOUT REQUEST.

Apples	1,350 pounds	Ice cream cones	800 pounds
Apricots	150 pounds	Ice cream cones	1 case
Beans	1,410 pounds	Lard	1,596 pounds
Candy	5,217 pounds	Malt	250 pounds
Canned goods	12,392 cans	Nuts	224 pounds
Cheese	180 pounds	Olives	3,790 pounds
Cherry pie	100 pounds	Poultry	7½ pounds
Chocolate	264 bars	Prunes	3,216 pounds
Chocolate	100 pounds	Rolled oats	178 packs
Cocoa butter	180 pounds	Raisins	18 packs
Corn	200 cans	Raisins	317 pounds
Corned beef	20 pounds	Salt	3,262 pounds
Corn meal	300 pounds	Salt fish	30 pounds
Currants	3,332 pounds	Sauerkraut	2 cases
Flour	1,846 pounds	Tea	2,520 pounds

LIVE STOCK INSPECTION (Brighton Abattoir).

	Feb.	Jan.		Feb.	Jan.
Cattle inspected . . .	27	38	Parts condemned . . .	201	249
Calves inspected . . .	1,964	1,081	Animals condemned . . .	4	3
Swine inspected . . .	4,929	7,475			

DAIRY DIVISION.

	Feb.	Jan.		Feb.	Jan.
Dairies inspected . . .	285	263	With milk rooms . . .	206	164
Scoring above 50 * . .	234	198	Without milk rooms . .	79	99
Scoring below 50 . . .	51	65	Inactive	2	5

* Passable mark.

BUREAU OF MILK INSPECTION.

	Feb.	Jan.		Feb.	Jan.
Chemical Inspection of:			Bacteriological examination of:		
Milk	1,416	1,497	Milk	566	877
Ice cream	7	1	Ice cream	84	22
Milk caps	4	0	Court cases	33	16
Milk bottles	24	0	Fines	\$475	\$220
Miscellaneous	16	26			

SANITARY INSPECTION.

	Feb.	Jan.		Feb.	Jan.
Original inspections . .	860	1,302	Car reports	994	1,269
New reports	1,310	1,871	Complaints	523	816
Reinspections	3,916	6,065	Court cases	33	95
Legal notices served . .	247	437	Fines	\$75	\$81

HOUSING SERVICE.

	Feb.	Jan.		Feb.	Jan.
Interior rooms lighted and ventilated	18	10	Water-closets:		
Water-closets:			Newly installed	15	31
Interior lighted and ventilated	45	41	Relocated	4	0
			Old buildings removed .	4	7

BACTERIOLOGICAL LABORATORY.

	Feb.	Jan.
Examinations for diagnosis and release:		
Diphtheria	2,961	2,284
Tuberculosis	332	272
Typhoid	43	35
Gonorrhea	528	561
Gonorrheal ophthalmia .	46	59
Syphilis	1,096	1,115
Other examinations . . .	* 22	† 24
Bacteriological examinations of milk	710	732
Examination of rats	912	973

* Dark field, 4; jams for decomposition, 3; pus for streptococci, 1; tumor for fatty degeneration, 1; malted milk for pathogenic organisms, 2; genito-urinary T. B., 7; malaria, 4.

† Malaria, 4; genito-urinary T. B., 6; blood for paratyphoids, 2; neck of lamb for pathogenic organisms, 1; olive oil for poisons, 1; smear for staphylococcus aureus, 1; effusion from chest for pus, 1; blood for Conradi test, 1; flour for pathogenic organisms, 1; pork for trichinæ, 5; salt for organisms, 1.

VITAL STATISTICS, FEBRUARY, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING FEBRUARY, 1922, WITH COMPARATIVE FIGURES FOR FEBRUARY, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,108	871	+237	17.40	13.79	+3.61
Nonresidents deducted.....	947	721	+226	14.87	11.41	+3.46
BY AGE:						
Under one year.....	166	124	+42	2.61	1.96	+.65
One year to four years, inclusive.....	76	59	+17	1.19	.93	+.26
Sixty years and over.....	382	322	+60	6.00	5.10	+.90
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	58	60	—2	.91	.95	— .04
Arterio-sclerosis.....	53	46	+7	.83	.72	+.11
Heart disease.....	170	114	+56	2.67	1.80	+.87
Nephritis, chronic.....	45	41	+4	.71	.64	+.07
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,395	1,397	—2	21.91	22.12	— .21
b. Registered stillbirths.....	55	48	+7	.86	.76	+.10
Stillbirths per 1,000 births and stillbirths, ...				37.93	33.22	+4.71
c. Deaths of mothers from causes incident to childbirth.....	20	7	+13	.31	.11	+.20
Deaths of mothers per 1,000 births and stillbirths.....				13.79	4.84	+8.95
d. Deaths of children in first year of life....	166	124	+42	2.61	1.96	+.65
Deaths in first year per 1,000 live births..				118.99	88.76	+30.23
VIOLENCE:						
Accidents.....	44	37	+7	.69	.58	+.11
Homicides.....		3	—3		.04	— .04
Suicides.....	10	7	+3	.15	.11	+.04
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	6	5	+1	.09	.08	+.01
Broncho-pneumonia.....	99	30	+69	1.55	.47	+1.08
Cancer.....	90	91	—1	1.43	1.44	— .01
Cirrhosis of the liver.....	3	8	—5	.05	.12	— .07
Diabetes mellitus.....	14	15	—1	.22	.23	— .01
Diarrhoeal diseases, children under two years of age.....	11	7	+4	.17	.11	+.06

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

		CASES AND DEATHS.—					
		ACTUAL NUMBER.			RATE PER 1,000 POPULATION.		
		1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:							
Anterior poliomyelitis.....	Cases..	2	2	.....	.03	.03	.....
	Deaths.	2	.....	+2	.03	.....	+ .03
Cerebro-spinal meningitis.....	Cases..	1	.....	+1	.01	.....	+ .01
	Deaths.	.....	1	-1	.....	.01	- .01
Diphtheria.....	Cases..	285	283	-2	4.48	4.48	.....
	Deaths.	12	20	-8	.19	.32	- .13
Influenza.....	Cases..	1,380	35	+1,345	21.67	.55	+21.12
	Deaths.	28	2	+26	.44	.03	+ .41
Measles.....	Cases..	499	358	+141	7.83	5.67	+2.16
	Deaths.	5	9	-4	.08	.14	- .06
Pneumonia, lobar.....	Cases..	282	131	+151	4.42	2.07	+2.35
	Deaths.	112	53	+59	1.76	.83	+ .93
Scarlet fever.....	Cases..	193	305	-112	3.03	4.83	-1.80
	Deaths.	8	3	+5	.12	.04	+ .08
Tuberculosis (pulmonary).....	Cases..	185	178	+7	2.90	2.81	+ .09
	Deaths.	71	69	+2	1.11	1.09	+ .02
Tuberculosis (other forms).....	Cases..	22	38	-16	.34	.60	- .26
	Deaths.	12	11	+1	.19	.17	+ .02
Typhoid fever.....	Cases..	7	11	-4	.11	.17	- .06
	Deaths.	.....	1	-1	.....	.01	- .01
Whooping cough.....	Cases..	31	86	-55	.49	1.36	- .87
	Deaths.	3	5	-2	.12	.08	+ .04

This table includes all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth and stillbirth rates are computed on the basis of the recorded number of births and stillbirths taken together per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated populations for February, 1922 and 1921, based upon the federal census of 1920, have been used.

Care and Climate in the Treatment of Disease.—"As between care (that is fresh air, good food, rest and competent medical attention) and climate, the last must always continue to be a secondary consideration. In the least favorable climate, good care, provided the surroundings be the best obtainable, will produce much better results than the best known climate without this care. If the patient must choose between the two, take the care and let the climate go; but if he be so fortunate as to be able to have them both, his prospects of recovery are certainly brighter than they could be if he were compelled to depend on one alone."

[John W. Flinn, M. D., *Interstate Medical Journal*, Vol. 21, page 479, 482, 1914.]

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex.
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts	
Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday, Tuesday, Wednesday and Thursday from 2 to 4 p. m.

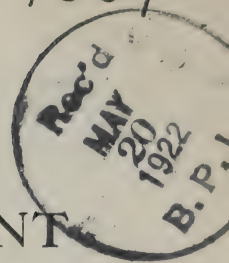
Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population 757,634			
Live Births 19,397	Birth rate (live births)	25.60	
Deaths 10,217	Death rate	13.48	

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

1559



MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, MARCH, 1922.

NO. 3

A PLEA TO PHYSICIANS TO CONTROL DIPHTHERIA.

Diphtheria is curable if treated with antitoxin and to some extent is controllable with proper isolation of the patient who is ill with the disease; the disinfection of the patient at the bedside; and the destruction by fire of all catarrhal discharges from the frank cases.

These are well understood factors in the cure and attempted control of the disease, but the teachings of preventive medicine aspire to more than this, namely, its complete eradication. It is only recently that any concerted effort to eradicate diphtheria has been made, and without the help and aid of physicians it will not be possible to obtain the sympathy and interest of the public necessary to insure success, because no medical or epidemiological measures in the prevention of disease will receive universal public support unless the attitude of medical men is favorable to their adoption.

The control of diphtheria is now an almost certainty and the methods in the control of this disease are rapidly becoming universal.

Since the seriousness of diphtheria has been recognized by the public, there is a growing interest in the malady, and in the efforts to suppress it. All great movements proceed slowly, and methods and measures change frequently before complete success is achieved, and if the recent history of the morbidity of diphtheria and of the ordinary means now in vogue to control the disease have taught us anything, it is that the disease cannot be eradicated so long as these methods alone prevail, neither can it be suppressed

until better substitutes can be found; and so long as the public cannot maintain households suitable for the proper isolation of cases, and so long as adequate hospitalization cannot be provided for all such cases, just so long will diphtheria flourish.

The Boston Health Department, realizing this and also realizing that the problem is medical, and that the physicians' scope is not only in the treatment of the disease, but also in its control and eradication, asks the medical profession to work hand in hand with the department to help blot out from our municipality the lurking enemy that has been with us so long—diphtheria.

The eradication and control of diphtheria is in the adoption of the Schick test and the subsequent immunizations with toxin-antitoxin. These constitute the implements that promise to stamp out diphtheria, as vaccination has smallpox.

It is the intention of the epidemiologist of the Boston Health Department, under whose direction the Schick and toxin-antitoxin immunizations will come, to conduct a municipal crusade by means of lectures, pamphlets, newspaper publicity and other forms of educational propaganda, and it is the opinion of the Health Commissioner that the great mass of people will be influenced to a greater degree by the opinions of their family physicians, and he requests your aid and assistance, knowing full well that just as individuals follow a successful leader, so do patients follow the lead of their physician, especially when the incentive is something for the benefit of themselves and their kin.

The control of diphtheria in other municipalities of our country by means of the Schick and toxin-antitoxin immunizations gives evidence of ultimate success, and it is safe to say that if a co-operative plan be established by the physicians of Boston and the Boston Health Department, diphtheria will become a scourge of the past.

The Shortcomings of Antitoxin.

Immunizing does give protection for a very brief period only. To be effectual for protection over a prolonged period, injections of antitoxin would have to be repeated every two weeks. This is utterly impractical, as a general method of immunizing children of any large municipality.

Benefits Derived from Antitoxin.

Antitoxin is of value when children who are known to be susceptible or who have not been tested as to susceptibility are in contact with a case of diphtheria, and immediate protection, even though of short duration, is desired.

The Schick Reaction.

This is a test for separating the susceptibles from the immunes in diphtheria. The technique of the Schick reaction, although very simple, must be carried out with the greatest accuracy or the results will be misleading. To carry out the test it is essential to have a good syringe with a sharp but short-pointed fine needle. The Vim outfit made by McGregor has been adopted by the Boston Health Department.

Distribution of Schick and Toxin=Antitoxin Outfits.

Outfits for Schick tests and toxin-antitoxin are prepared at the laboratory of the State Department of Health at Forest Hills, Mass. Full directions are contained in each outfit, together with minute directions for making the test and the differential reactions.

Recommendations.

(a.) Family physicians to Schick and immunize their patients.

(b.) The Health Department will Schick and immunize all children of pre-school age that are referred by the family physician or parents.

(c.) Others may be immunized in school by application to Doctor Devine (in charge of medical inspection of schools).

(d.) There are at present three clinics for public testing and immunizations. Applications can be made to Doctor Place, South Department, Boston City Hospital; Doctor Sanborn, Vaccine Laboratory, Boston City Hospital; Doctor Hooker, Homeopathic Hospital, Harrison avenue.

(e.) All applications for Schick and immunizations to be performed by the Health Department should be made to Dr. John A. Ceconi, Epidemiologist, Health Department, City Hall Annex, Boston, Mass.

CARE OF THE MOUTH AND TEETH.

The more the degenerative changes giving rise to premature death in early middle life are studied the more pathologists are inclined to believe that long-standing localized chronic infections, so-called focal infections, are an important factor in bringing about the arterial degeneration which characterizes these early deaths. Such chronic infections often directly related to the final cause of death may be found in the gall bladder, heart, kidneys or prostate or a cranial sinus, but often a chronic infection in these organs is secondary to a primary infection in the mouth, to tonsils or teeth which became chronically diseased early in life.

We probably do not yet understand fully the reason why tonsils were placed in the throat, but we may be sure that they were put there for some useful purpose and we know that when they enlarge and become chronically infected it is because they have practically broken down from overwork. Tonsils will sometimes show signs of being overworked from causes we do not understand. For example, it was found during the war that service on submarines gave rise to a troublesome enlargement of the tonsils which rapidly disappeared when the men were transferred temporarily to other duty. Many a surgeon who has postponed a tonsil operation on a child until after the summer vacation has found nothing to operate on after the child has spent two months out of doors. Tonsils which have become irreparably changed in structure and chronically diseased from overwork so that they are a source of chronic poisoning of the whole body must of course be removed, but the logical procedure is to seek and remove the cause of enlarged tonsils before they become themselves sources of danger.

Diseased tonsils will always be found in an unhealthy mouth, whatever other causes may exist. An unhealthy mouth is usually found associated with diseased teeth. Diseased tonsils are always found associated with decaying teeth in children. One reason why the removal of diseased tonsils in children so often gives unsatisfactory results is because diseased, decaying teeth are left in the child's mouth. Decaying teeth should be removed, and any other unhealthy mouth conditions cured, before removing a child's tonsils. If this be done, it will be found that in many instances the reasons for removing the tonsils will disappear.

Research work in nutrition is showing that tooth decay in children is chiefly, if not entirely, due to improper diet, and that probably improper diet even on the part of the parents predisposes the child to tooth trouble. It is apparent that tooth decay in children is not only brought about by a deficiency in the diet of certain essential nutritive elements, but that the diet must possess the right physical character in order to bring about the development of healthy normal teeth. The circulation of blood in the child's growing jaws and teeth is very largely dependent on intermittent pressure on the parts by chewing. The circulation and consequently local nutrition is therefore promoted by eating a food that has to be chewed before it can be swallowed. There is similar evidence that other mouth diseases like "canker," pyorrhea or Riggs disease, are likewise attributable to an improper diet, inasmuch as the infective processes which characterize such diseases would not have developed in a properly nourished, clean, healthy mouth.

While we may be able to say that this or that condition is at-

tributable to improper diet and faulty nutrition, there are still many important missing links in our chain of knowledge of the relation of diet to bodily health. We find people and even races of people in many parts of the world whose mouths and teeth remain in a perfectly healthy condition from childhood to old age and who never give a tooth brush or a mouth wash a thought in their lives. Our knowledge of this subject is not yet sufficient to enable us to say that if you will eat a particular diet, you will never need a tooth brush or a dentist. We can say, however, that if you will see that your diet includes fruit and fresh, uncooked vegetables, as salads, for example, and that it regularly includes food which has to be chewed you will lessen your chances of tooth and mouth trouble. We can also say that there is evidence that sugar and articles of food containing a lot of sugar tend to favor the development of tooth and mouth trouble, particularly in children. But until we understand much better than we do now many factors which influence bodily nutrition, we must teach that from early childhood the teeth should be regularly brushed after meals, that the teeth should be regularly inspected by a dentist twice a year, and that at the first indication of anything abnormal in the mouth, competent professional advice should be immediately sought. By so doing, we certainly know that we will avoid many of the common, chronic focal infections which are so often the real cause of the death of persons between forty-five and fifty-five years of age.

RABIES.

During the past year epidemics of rabies among animals have caused serious trouble in various localities in the western part of the state and in Connecticut. One rabid dog, a large animal, which ran amuck recently in Holyoke, bit twenty people, mutilating some of them horribly. Boston and vicinity have not escaped entirely. Since July 1, 1921, nine animals definitely demonstrated to have rabies have come to the attention of the Boston Health Department. During this time the Health Department has furnished antirabic virus for the treatment of four persons bitten by rabid animals. It is to be remembered that besides dogs, other animals, such as cats, horses, etc., may become infected with rabies. One of the Health Department's recent cases for antirabic treatment was a woman who was attacked without provocation and extensively bitten by a rabid cat. We should also bear in mind that it is only during a comparatively brief period of the disease that an animal has a tendency to become excited and bite others, in fact, more

often than otherwise the animal remains dull and inactive throughout, gradually becoming paralyzed.

Particularly at the present time, therefore, when rabies is present we should bear in mind the possibility of this disease in any animal which may show evidence of sickness and distress. Such an animal should be humanely shut up or restrained so as to prevent it from endangering others whatever may develop. The danger from a rabid animal comes from the animal's saliva. A dog in the early stages of rabies may give its master the disease simply by licking a scratch on its master's hand. The chances for infection are of course naturally greater when the rabid animal bites a person or another animal and buries the dangerous saliva deep in the flesh. Bites about a person's face or hands are particularly dangerous. Bites through clothing seem to be less dangerous, probably because the saliva tends to be wiped off the teeth as they pass through the clothing. In times of alarm over rabies there is a tendency to believe animals are rabid which are not and animals are killed and disposed of without determining whether they have been sources of danger to others or not. To avoid on one hand unnecessary worry and on the other to assure adequate protective treatment to persons exposed to rabies it is of the utmost practical importance that suspected animals should be kept alive until seen by a competent veterinarian in order that steps may be taken to determine positively whether the animal has rabies. It may be impossible to tell from any examination of a dead animal killed in the earlier stages of rabies whether it had rabies or not and consequently whether or not those who may have been in contact with the animal are in danger of developing the disease.

Cases of suspected rabies in animals should be reported at once to the Health Department directly or through the police. Cases of persons bitten by animals should likewise be reported to the Health Department. Physicians are required to report to the Health Department cases of dog bites coming to their attention.

If, after investigation, it is believed that antirabic treatment should be given to any person as a precautionary measure, the Health Department will furnish the person's physician, free of charge, the proper doses of antirabic virus, or if the person or the physician desires, the Health Department will arrange to have the treatment given free of charge at the City Hospital.

Eat Good Food.—The best food is oftentimes the cheapest food, rather than the choicest. This does not mean, of course, that we advise buying cheap food.

MARKET INSPECTION.*

The first examination that an inspector assigned to the early market performs is the inspection of the wagons and trucks used to transport all meat, which has been shipped from Chicago, Omaha, St. Louis and other cities, from the refrigerator cars in the freight yards to its destination in the market. This examination is carried on at the freight yards or on the street. The purpose of the examination is to see whether the meat is properly protected from flies, dirt, dust or other possibility of contamination.

Not only these vehicles, but also those that convey the country-dressed meat from surrounding towns, such as Lowell, Amesbury and Brockton, to the commission houses must be inspected. These wagons and trucks come by various routes, so the inspector selects different lines of traffic for each morning. With these cases the inspector observes the method of handling the meat and the condition of the product, for example, whether it had been inspected at the time of slaughter, and whether it is now fit for food.

There are many tests that can be applied, varying according to the condition suspected, to ascertain the facts, but perhaps one example will suffice to give an idea of the method pursued. In summer animals that are killed on the outlying farms are often slaughtered in barns. Such carcasses are in danger of being subject to "fly-blown," that is, a fly lays eggs in or around the kidney, incubation sets in and maggots form. In an advanced stage the carcass is maggoty. In such cases the inspector seizes and condemns the infected portions.

There is one more route by which food is shipped to the Boston market, the expresses which transport meats, etc., from northern New England, Maine, New Hampshire and Vermont, and Western Massachusetts. This meat is inspected at the commission houses and is subject to the same examination given to country dressed products, *i. e.*, was it stamped at the time of slaughter and is the carcass in a satisfactory condition to be sold for food? Besides watching these transit lines over which meat is conveyed to its market, the inspector must visit all the commission houses, wholesale and retail markets, stalls and stores where meat is sold to the public.

Meat inspection work in the market is seasonable; that is, at certain seasons of the year an inspector is on the lookout for conditions that are peculiar to that season. For example, in the spring he is interested for the most part in "light bob veal." The law of Massachusetts states that carcasses of veal weighing less than forty

* Not including late Saturday market inspection.

pounds without hide, head, feet and entrails, and less than four weeks old, must not be sold. Many of the country shippers are not aware of this law; consequently in the spring there are likely to be more light calves than at any other time. During the summer special attention is given to "heated" and "fly-blown" carcasses of hogs, lambs, calves and beef.

In the fall and winter conditions for shipping are better; consequently the inspector is concerned for the most part with ascertaining whether the product has been properly stamped, and whether it is suitable for food. Stamping is at all times an object of careful examination.

The most important phase of inspection, of course, is the examination and the testing of products in different ways according to conditions to see whether or not they are fit for food. One of the chief troubles with beef is that it is "pricked" or "heated," a condition which is caused by the failure to allow the animal heat to leave the carcass before it is placed in a low temperature. This "heat" or "prick" shows mostly in the pin joints. In the opinion of one of the market inspectors this trouble is caused by the method used in slaughtering. When the animal is tripped at the time of slaughter a great strain is exerted on this particular joint. As a result, more time is required for the animal heat to leave this joint. When sufficient time for cooling is not provided for before the carcass is placed in the refrigerator, the first stage of decomposition sets in. This condition is disclosed by inserting a trier into the flesh around the pin joint. The gas odor emitted will readily indicate the infected state.

Another interesting example of a test used in meat inspection occurred in connection with a case discovered by a market inspector at a commission house one morning recently. He found a saddle of veal containing eight ribs and weighing twelve pounds. Figuring the saddle as three-fifths of the entire weight of the carcass, he was convinced that the whole carcass was decidedly underweight. On cutting the kidneys he found they contained clotted blood. On cutting into the bone he discovered instead of marrow the cavity in the bone contained blood. The flesh, which was light gray, could easily be torn and penetrated by the fingers, the indentation made by the fingers remaining in the carcass. In his opinion the calf was either born dead or dressed before birth. The case was taken to the courts and the offender found guilty.

Lamb is not nearly so likely to be infected as beef. The only trouble with lamb is "sheep scab." The most important point in the inspection of hog is cholera, which shows in the discoloration of the bones and condition of the kidneys and flanks and lymph glands.

Not only do persons and places associated with the sale of meat come under the jurisdiction of the market inspector, but every establishment in the market district that handles any product sold as food. One of the greatest sources of trouble is the shop that bones out meat to sell to sausage factories. The meat used for this purpose is likely to be the flesh of emaciated and diseased animals. Recently while one of the inspectors was passing one of these boning establishments he noticed several men talking in front of the shop who seemed to be much interested in his approach. After inspecting the plant he returned to the street and walked away. Immediately two of the men drove away in a wagon which contained several bags. The inspector followed them and, after stopping the wagon, examined the bags and found they contained veal forequarters badly eaten by rats and covered with rat dirt, sawdust, and other contaminating substances. This stuff was immediately condemned and destroyed.

In addition to boning establishments, the market inspector must also visit sausage factories, chicken slaughter houses, street stands, fruit and produce exchanges, where farmers sell from trucks, stalls and stands, the products they have brought in from farms, also chocolate, candy, jelly and preserve factories. In general, the points noted are light, ventilation and contaminating surroundings, sanitation, general construction, conditions of product, stock and methods of handling, to see whether conditions comply with the regulations of the Health Department.

In these cases, as with meat inspection, the most important item is the examination and testing of products to determine whether they are fit for food or not. Each product requires its own particular tests, too extensive to enumerate in this article, but the examples already cited will show with sufficient clearness the nature of the work of a market inspector.

MARKET MILK.

The sale of milk by organizations controlling chain stores was recently commenced in this city and there has since been such a widespread adoption of the idea, that at the present time nearly all of the companies of the chain store type are retailing milk.

The quantity of milk sold by these establishments forms a substantial proportion of the total amount of milk used here daily, consequently, the quality of this milk, the methods of handling and its subsequent care becomes of importance to the consumer.

In order that the public may have information concerning the quality of market milks, this department has decided to make exam-

inations of the milk sold by the large distributors, and an average of these tests will be published in a forthcoming bulletin. That dealers may have knowledge concerning this survey, a marked copy of this announcement is being mailed to the concerns interested before the commencement of the tests.

TEMPERATURE RECORDING DEVICES FOR PASTEURIZATION OF MILK OR CREAM.

This department recently issued a communication relative to the employment of temperature recording devices in connection with the pasteurization of milk or cream. Copies of this notice were mailed not only to all of the licensed milk dealers of the city, but to all of the creameries in Maine, New Hampshire, Vermont, New York and Canada, where milk or cream may be pasteurized for subsequent sale in this city. A copy of this letter follows:

Experience has shown that in order to properly safeguard the health of communities through the pasteurization of milk or cream, the pasteurizing equipment should be provided with automatic time and temperature recording apparatus.

Consequently, those engaged in the pasteurization of milk or cream, for subsequent sale in the City of Boston, and not already using such outfits, must immediately supply all heaters or pasteurizers used in the pasteurization of milk or cream with suitable automatic time and temperature recording devices, which will indicate to what temperature the milk or cream has been heated, also the length of time it was subjected to such heat, and the time when such record was made. Records must be made daily and subsequently kept on file and open to the inspection of the officials of the Boston Health Department for a period of one year.

When these recording devices have been installed and are in operation, please notify the Boston Health Department of this fact in writing. This should be done prior to renewing your milk license.

KILL THE FLY.

The fly is one of the most dangerous insects known to science. Every individual, young and old, no matter what his pursuit in life, should take it upon himself as a bounden public and personal duty to kill the fly at every opportunity. No person should tolerate the presence of flies in his home, his place of business, his church, or any of the various restaurants and lunch rooms where he may take his meals when not at home. He should not patronize a soda fountain where the presence of flies is a danger to his health, and he should caution others against so doing also. The housewife at home should take special precautions with reference to the preparation and handling of food prepared for the family to see that no flies are allowed to come near the food. She should keep all food covered as much as possible.

EXAMINATIONS FOR VACANCIES IN HEALTH DEPARTMENT.

The following examinations will be held by the State Department of Civil Service and Registration for vacancies in the Boston Health Department. Further information may be obtained by writing the Civil Service Commission.

Examination for Medical Inspectors, May 24, 1922.

The salary is \$1,500 per year. It is desirable that applicants have a knowledge of the Italian language and people. Applicants must be licensed physicians under the State Board of Registration in Medicine, Department of Civil Service and Registration. The Medical Inspector keeps in touch with health conditions in his district, and under the direction of the Health Department, advises and cooperates with physicians and local organizations in matters relating to the promotion of public health; it is his duty to see that measures prescribed by law or regulations for the prevention of the spread of communicable diseases are observed, to supervise the isolation or quarantine of communicable diseases, to examine, when occasion arises, persons suspected of having a reportable disease, to investigate causes of sickness or food poisoning or of death, and to perform various other duties of a professional character.

The subjects of examination with their respective weights will be as follows: Training and experience (1); special questions on the duties of the position (1); total (2).

Successful applicants will also be given a physical examination.

Examination for Bacteriologist, June 6, 1922.

The salary is \$1,800 to \$2,000 per year. The examination is open to both men and women. Applicants must have had practical training in a public or private bacteriological or public health laboratory for at least two years, or have had equivalent training or experience.

The subjects of examination with their respective weights will be as follows: Training and experience (4); written examination, including bacteriology, protozoology, helminthology, serology, hematology (4); practical laboratory examination in bacteriology technique (2); total (10).

Applicants will be required to obtain a mark of at least 65 per cent in training and experience.

Successful applicants will be required to file a certificate from a reputable physician as to their physical fitness for the position.

PERSONAL HEALTH TO BUILD A STRONGER NATION.

The National Physical Culture Week Committee, 119 West 40th street, New York City, has outlined a program of Personal Health for National Physical Culture Week, May 1 to 8, 1922. The slogan is "To Build a Stronger Nation."

The committee is composed of men and women of reputation in matters of public health, art, athletics, social welfare, research, industry, recreation and public service administration. An enumeration of any one group of these public-spirited men and women would do an injustice to the others on the committee. Suffice it, therefore, to say that their presence on and interest in the work of the committee is an indication of the earnestness with which the campaign is to be forwarded, and the realization by them of the necessity for the methodical regulation of the personal habits of the majority of the men and women of all ages, classes and conditions.

The activity of the present age with its insistent demand upon the physical capacity of human beings requires that physical state of well-being and fitness which will best enable them to keep up to the rigid standard of requirements which the twentieth century compels. Those who work out of doors are less apt to feel the effects of lack of exercise, or poor ventilation of offices, factories and work shops, and the like, because their very outside occupations and pursuits compel them to exert themselves physically more consistently in one way or another, strenuously or leisurely, than those whose occupations and pursuits indoors confine them to offices and factories and workshops. Then, too, while there are plenty of men, particularly, and women, too, whose work within doors calls for physical activity of a strenuous nature, the fact that they are confined within doors does not give them that exhilaration of mind and body which the same amount of physical endeavor would produce if undergone out of doors in the pure air and sunshine. Further, the constantly changing elemental conditions under which out-of-door workers must contend with, while it produces its own reaction because of the very participation in it, also requires that such persons be perhaps more ruggedly vigorous than their brothers confined and protected from not only the less agreeable elements of stormy weather conditions but also from the enjoyable environment of fresh air and sunshine. The conclusion, therefore, from the advantages and disadvantages of work within and without doors is that there are certain easily adopted measures which the ordinary person can safely follow. He need not confine himself to any strict "booky" form of habit regulation, but can naturally, and almost

without conscious effort, perform a real duty to himself and to the community in general by keeping himself fit.

If you are in good physical health, you will in all probability be in good mental and moral health. Your physical well being advertises itself in your personal appearance. Our appearance impresses itself upon others and thus sets an unconscious good example to follow. During the week that has been set aside by the committee it is your duty as a citizen, as a friend of yourself, your family, your friends, neighbors and associates to follow the suggestions laid down by the committee. The suggestions are based on common sense in such manner that all except those invalided can easily follow them. The personal health program of the National Physical Week Committee is printed below. Don't let the other fellow do it; do your share, too.

PERSONAL HEALTH PROGRAM FOR NATIONAL PHYSICAL CULTURE WEEK.

May 1 to 8, 1922.

- | | |
|--|---|
| <ol style="list-style-type: none">1. Spend ten minutes in setting-up exercises. (We will be glad to send upon request, without charge, a complete set of Bernarr Macfadden's Setting-up Exercises.)2. Sleep with windows open. Secure what sunshine you can.3. Spend a minimum of ten hours during the week in the open air. Balance work and play.4. Walk at least three miles each day.5. Treat your stomach with respect. Do not over-eat.6. Eat meat not more than once a day.7. Balance your meals with fruit, green salads, and other vegetables. (We will gladly send upon request, without charge, a properly balanced menu for the entire week, prepared by Bernarr Macfadden.) | <ol style="list-style-type: none">8. Drink at least eight glasses of pure water daily.9. Completely relax for at least fifteen minutes each day and conserve your nerve energy.10. Cultivate happy thoughts. Think in terms of health. Arrange all plans for the week upon a basis such that each day's activities will be consistent with the requirements of keeping fit. |
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COUPON.

119 West 40th St., New York City.:

I hereby pledge myself to carry out the personal health program outlined for National Physical Culture Week.

I would like to have you send me, without charge, chart of setting-up exercises and the properly balanced menu.

Signed
Occupation
Street
City State

Make National Physical Culture Week a Model Week in Your Own Home and Business. Sign the Coupon and Mail It In.

Report Violations.—Good citizens should report any and all violations of health laws that come to their attention. It is by this co-operation that the city can be made and kept clean and a greater pride manifested by its citizens in good health.

MEDICAL FAKIRS REPORTED IN BOSTON.

The Health Commissioner has received a letter from the Health Officer of Rochester stating that Dr. D. V. Ireland and I. W. Long of Columbus, Ohio, have been driven from that city for activities alleged to train physicians "on the treatment of rectal diseases and the cure of imperfect sight by treatment without glasses."

It may be interesting to know that a similar fraud was recently advertised in Boston, and the following is a quotation from the "Boston Medical and Surgical Journal" concerning a "Doctor Gregory."

AN APPEAL OF A QUACK TO POSSIBLE QUACKS.

A circular has been sent to physicians in this vicinity, setting forth that a Doctor Gregory taught a special post-graduate course in Boston last year and that "several" have written requesting his return. He has "consented" to conduct another class in April. This class is for regular physicians. The course is guaranteed to be "far superior to the chiro-quack-tic system," in that three treatments as set forth by Doctor Gregory are better than ten of the other kind. The diseases cured by this method are named, and cover most of the incurables and some troubles for which surgery is the accepted therapeutic agent. It is claimed that one can, by the methods taught, even learn how to restore heart action after it has stopped.

Why do we have medical schools and hospitals, with all the expensive equipment and faithful service of able men, if this wonderful system makes them unnecessary? The "Journal" suggests that information relating to attendance upon this course by any physician in good standing be furnished. It would be interesting to know if there are practitioners among us who are supposed to be decent, but who are really fools.

A prominent physician asks if any official body has any control over "these cattle." Unfortunately, no board has such authority. A victim might sue under the contention that money had been obtained under false representation. If anybody attends the course, there will be confirmation of Barnum's famous saying.

PERCENTAGE OF NON-RESIDENT DEATHS TO TOTAL DEATHS, 1920.

Boston	15.6	Rochester	6.1
New York	3.0	Providence	11.9
Philadelphia	2.6	Birmingham	12.7
Detroit	3.6	Richmond	10.1
Cleveland	5.1	New Haven	8.4
Baltimore	7.8	Bridgeport	6.7
Pittsburgh	14.5	Hartford	28.0
San Francisco	13.4	Springfield	14.6
Milwaukee	5.2	Lowell	2.8
Newark	5.6		

NOTE.—Of the above eighteen cities only one, Hartford, Conn., shows a higher percentage of nonresident deaths than Boston. The average percentage for the eighteen cities is 8.8, or, in other words, nonresident deaths in Boston are 6.8 per cent higher than the average for the eighteen cities listed above.

SANITARY CONDITIONS IN THE SOUTH END.

Because of vigorous complaints concerning sanitary conditions in the alleys in the lower South End district, particularly throughout the lodging house section, an intensive survey was made by the inspectors of the housing service of the sanitary division. It had been suggested that the frequency with which unlawful deposits of garbage appeared in those alleys was due to the prevalence of surreptitious light housekeeping among the occupants of some of the lodging houses, such occupants resorting to that method of disposing of their garbage, so as to prevent the landlord or the landlady from knowing that the rooms were being occupied contrary to the rental agreements.

Up to the close of the year 146 private lodging houses had been examined on five streets. In only twelve instances, however, was it found beyond question that light housekeeping was being carried on, and five of these instances were found in a single lodging house. The presence of so many housekeeping establishments within the building constituted it legally a tenement house, although it was not built nor designed with any such purpose, nor was it being occupied in compliance with the laws applicable to tenement houses. Most of the houses had been constructed some years ago, and consequently many poorly lighted and poorly ventilated water-closet apartments were found. Plumbing in some instances was so far out of conformity with existing requirements, because of an early type of design, as to call for action. The general cleanliness of the houses examined was good. The alleys adjacent to the houses were found, too, in a cleanly condition at the time of the survey, but as the Public Works Department had just completed a general clean-up of the alleys in this section of the city, no fair conclusions as to average conditions could be drawn from the inspection.

The Health Department has taken proper action to establish sanitary and lawful conditions in so far as the conditions found fell below established standards.

Consult Your Physician.—Advertised and home remedies sometimes do no harm when you are out of reach of a physician. But remember that what may cure your neighbor or what may be considered as a cure-all may be detrimental to you personally. What is supposed to cure all never cures anything. The best cure is the best advice that fits your own case and this may be best procured by consulting a physician.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING MARCH, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	12	21.42
7 days or less.....	2	3.57
8 to 14 days, inclusive.....	1	1.79
15 to 21 days, inclusive.....	1	1.79
22 to 31 days, inclusive.....	1	1.79
WITHIN FIRST MONTH.....	17	30.36
Within second month.....	3	5.36
Within third month.....	1	1.79
Within fourth month.....	1	1.79
Within fifth month.....	1	1.79
Within sixth month.....	2	3.57
Within seventh month.....	3	5.36
Within eighth month.....	1	1.79
Within ninth month.....	5	8.93
Within tenth month.....		
Within eleventh month.....		
Within twelfth month.....		
WITHIN FIRST YEAR PRECEDING DEATH.....	34	60.74
Within second year.....	8	14.29
Within third year.....	2	3.57
More than three years.....	12	21.42
Total.....	56	100.02

DEATHS AND DEATH RATES FOR CERTAIN CITIES, MARCH, 1922.

CITY.	Popula- tion Esti- mated July 1, 1921.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		Mar. 4.	Mar. 11.	Mar. 18.	Mar. 25.	Mar. 4.	Mar. 11.	Mar. 18.	Mar. 25.
Boston.....	757,634	322	298	302	267	22.2	20.5	20.8	18.4
Bridgeport, Conn.....	149,967	42	39	35	39	15.3	14.2	12.7	14.2
Cambridge.....	110,444	45	50	30	39	21.2	23.6	14.2	18.4
Fall River.....	120,668	87	78	66	45	37.6	33.7	28.5	19.4
Lowell.....	113,757	45	36	35	32	20.6	16.5	16.0	14.7
New Bedford.....	125,012	50	46	48	40	20.9	19.2	20.0	16.7
Providence, R. I.....	239,645	126	83	77	83	27.4	18.1	16.8	18.1
Springfield.....	135,877	35	30	47	36	13.4	11.5	18.0	13.8
Worcester.....	184,972	68	34	57	43	19.2	9.6	16.1	12.1

BOSTON SANATORIUM.
(FORMERLY BOSTON CONSUMPTIVES' HOSPITAL.)
(Name changed by City Ordinance January 18, 1922.)

Trustees' Office, 1001 City Hall Annex.

Hospital.—249 River Street, Mattapan.

Men, women and children, residents of Boston, in all stages of pulmonary tuberculosis, are admitted. Patients with non-pulmonary tuberculosis are admitted when there is room for them.

Apply to the Superintendent of the hospital, Dr. A. J. White, or to the Superintendent of Nurses of the Out-Patient Department, Miss Gardner, for admission.

Milton cars from Forest Hills pass the hospital.

Out-Patient Department.—13 Dillaway Street (off Hollis Street), Boston.

Open on Mondays, Wednesdays, Fridays and Saturdays from 9 to 11 a. m. and on Monday evenings from 7 to 9 p. m. On Saturday mornings there is a special clinic for children.

Telephones.

Hospital — Milton 2310. O. P. D.—Beach 3430 and 2040.

Trustees.

John F. O'Brien, M. D., *Chairman*; James J. Minot, M. D., *Secretary*; Isabel F. Hyams, John J. Barry, Patrick A. Kearns, Peter J. Donaghue, Susan C. Lyman.

KILL THE FLY WHEREVER YOU SEE HIM BECAUSE

He spreads disease germs.

He multiplies rapidly.

A live fly now means a million later.

Your life is in danger.

The lives of your children are in danger.

The lives of the neighbors are in danger.

He feeds on filth.

He is safe only when dead!

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex.
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population		757,634		
Live Births	19,397	Birth rate (live births)	25.60	
Deaths	10,217	Death rate	13.48	

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

SUMMARY OF THE WORK, MARCH, 1922.

BUREAU OF ADMINISTRATION.

	Feb.	Mar.		Feb.	Mar.
Conferences	1	0	Personnel:		
Hearings	2	2	Appointments	2	1
Prosecutions ordered	16	20	Appointments termi-		
Orders	4	3	nated	0	2
Orders rescinded	0	1	Appointments made		
Special drafts	1	4	permanent	0	1
Building ordered re-			Leaves of absence		
moved	1	0	granted	0	1
Building ordered vacated,	3	0	Salaries increased	0	1
Forcible removals	0	2			

LICENSES, PERMITS, ETC., ISSUED.

	Feb.	Mar.		Feb.	Mar.
Burial permits	1,229	1,029	Stable permit granted	1	1
Disinterment permits	6	12	Stable permit granted		
Milk licenses	189	883	conditionally	0	1
Pedler's licenses, general,	38	119	Denatured alcohol li-		
Hen licenses granted	24	1,050	enses	4	4
Dump licenses issued	8	9	Manicure-massage:		
Roosters permitted on			Granted	28	21
premises	0	2	Beverage establishment		
Sundry	2	6	licensed	9	9
			Grease	0	36

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Feb.	Mar.		Feb.	Mar.
Visits by medical inspec-			Vaccination certificates	2	6
tors	1,770	1,489	Cases brought to Boston		
Deaths investigated	24	22	for treatment	94	80
Vaccination	5	8	Antitoxin administered	3	0

NURSING SERVICE.

	Feb.	Mar.
Communicable disease visits	4,027	3,567
Babies visited, first visit	512	910
Revisits	713	1,207

HEALTH UNIT (Blossom Street).

	Feb.	Mar.
Health Department proper:		
Vaccinations	5	14
Vaccination certificates issued	1	11
Cases visited by nurses:		
Communicable diseases	171	166
Complaints made of insanitary conditions	6	9

	Feb.	Mar.		Feb.	Mar.
Baby Hygiene Association:			Conferences:		
Babies cared for	308	315	Number	8	9
Babies newly admitted, ...	13	15	Total attendance	233	400
			Home visits by nurses, ...	371	545
				Feb.	Mar.
Boston Dispensary:					
Calls by district physician from Boston Dispensary				161	120
Consumptives' Hospital Department:					
Calls by nurses in districts				639	781
Instructive District Nursing Association:					
Visits by nurses				2,074	2,115
Jewish Welfare Center:					
Conferences held				4	3
Number of children attending conferences				160	152
Visitors:					
City				18	8
Out of city				1	1
General:					
Number of persons applying for information				57	61

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Feb.	Mar.
New reports	506	1,390
Stores inspected	1,751	2,370
Sanitary defects remedied	183	217
Complaints at office	40	47
Referred to Sanitary Division	20	68
Milk applications approved	130	138
Street stands inspected	22	25
Peddlers:		
Applications for licenses approved	42	106
Vehicles inspected and approved	476	629
Court cases	74	74
Fines	\$375	\$675

CONDEMNATIONS.

REQUESTED.

None.

WITHOUT REQUEST.

Beef and veal	1,523 pounds	Herring	30,200 pounds
Beef stickers	19,644 pounds	Oranges	42 boxes
Beef liver	65 pounds	Pigeons	400 pounds
Cheese	1,187 pounds	Prunes	6,625 pounds
Chickens	43 pounds		

LIVE STOCK INSPECTION (Brighton Abattoir).

	Feb.	Mar.		Feb.	Mar.
Cattle inspected	27	22	Parts condemned	201	179
Calves inspected	1,964	4,170	Animals condemned	4	4
Swine inspected	4,929	27			

DAIRY DIVISION.

	Feb.	Mar.		Feb.	Mar.
Dairies inspected	285	352	With milk rooms	206	236
Scoring above 50 *	234	267	Without milk rooms	79	116
Scoring below 50	51	83	Inactive	2	56

* Passable mark.

BUREAU OF MILK INSPECTION.

	Feb.	Mar.		Feb.	Mar.
Chemical Inspection of:			Bacteriological examination of:		
Milk	1,416	1,637	Milk	566	940
Ice cream	7	6	Ice cream	84	93
Milk caps for bacteria	4	80	Court cases	33	19
Milk bottles	24	82	Fines	\$475	\$335
Miscellaneous	16	32			

SANITARY INSPECTION.

	Feb.	Mar.		Feb.	Mar.
Original inspections	860	2,034	Car reports	994	1,385
New reports	1,310	2,445	Complaints	523	873
Reinspections	3,916	5,476	Court cases	33	18
Legal notices served	247	364	Fines	\$75	\$27

HOUSING SERVICE.

	Feb.	Mar.		Feb.	Mar.
Interior rooms lighted and ventilated	18	18	Water-closets:		
Water-closets:			Relocated	4	7
Interior lighted and ventilated	45	48	Old buildings demolished, Plans approved for light- ing and ventilation (water-closets)	4	4
Newly installed	15	15		0	34

BACTERIOLOGICAL LABORATORY.

	Feb.	Mar.
Examinations for diagnosis and release:		
Diphtheria	2,961	2,018
Tuberculosis	332	337
Typhoid	43	49
Gonorrhea	528	621
Gonorrheal ophthalmia	46	48
Syphilis	1,096	1,080
Other examinations	* 22	† 20
Bacteriological examinations of milk	710	817
Bacteriological examinations of ice cream	0	63
Examination of rats	912	748

* Dark field, 4; jams for decomposition, 3; pus for streptococci, 1; tumor for fatty degeneration, 1; malted milk for pathogenic organisms, 2; genito-urinary T. B., 7; malaria, 4.

† Genito-urinary T. B., 3; malaria, 4; glands for T. B., 2; meat for poison, 1; jam for poison, 1; chocolate for B. Coli, 1; oatmeal water for poison, 1; cultures for virulence, 3; water for organisms, 2; potato water for poison, 1; orangeade for poison, 1.

VITAL STATISTICS, MARCH, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MARCH, 1922,
WITH COMPARATIVE FIGURES FOR MARCH, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,187	1,001	+186	18.64	15.85	+2.79
Nonresidents deducted.....	992	825	+67	15.58	13.07	+2.51
By Age:						
Under one year.....	192	162	+30	3.02	2.56	+.46
One year to four years, inclusive.....	66	47	+19	1.04	.74	+.30
Sixty years and over.....	452	340	+112	8.00	5.38	+2.62
By SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	61	49	+12	.96	.78	+.18
Arterio-sclerosis.....	46	53	—7	.72	.84	— .12
Heart disease.....	205	134	+71	3.22	2.12	+1.10
Nephritis, chronic.....	78	62	+16	1.22	.98	+.24
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,685	1,751	—66	26.46	27.73	—1.27
b. Registered stillbirths.....	55	43	+12	.86	.68	+.18
Stillbirths per 1,000 births and still- births.....				31.61	23.96	+7.65
c. Deaths of mothers from causes incident to childbirth.....	11	14	—3	.17	.22	— .05
Deaths of mothers per 1,000 births and stillbirths.....				6.32	7.80	—1.48
d. Deaths of children in first year of life...	192	162	+30	3.02	2.56	+.46
Deaths in first year per 1,000 live births...				113.94	92.52	+21.42
VIOLENCE:						
Accidents.....	46	43	+3	.72	.68	+.04
Homicides.....	2	2	0	.03	.03	.00
Suicides.....	8	5	+3	.12	.08	+.04
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	11	5	+6	.17	.08	+.09
Broncho-pneumonia.....	94	54	+40	1.48	.85	+.63
Cancer.....	108	80	+28	1.70	1.27	+.43
Cirrhosis of the liver.....	6	6	0	.09	.09	.00
Diabetes mellitus.....	25	10	+15	.39	.16	+.23
Diarrhoeal diseases, children under two years of age.....	16	7	+9	.25	.11	+.14

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis. Cases . . .	1	3	—2	.016	.05	— .03
Deaths . . .	—	—	—	—	—	—
Cerebro-spinal meningitis. Cases . . .	1	5	—4	.016	.08	— .06
Deaths . . .	—	1	—1	—	.016	— .016
Diphtheria. Cases . . .	275	310	—35	4.35	4.91	— .56
Deaths . . .	7	13	—6	.11	.20	— .09
Influenza. Cases . . .	329	31	+298	5.22	.49	+4.73
Deaths . . .	18	4	+14	.28	.06	+ .22
Measles. Cases . . .	668	434	+234	10.58	8.87	+3.71
Deaths . . .	2	5	—3	.02	.08	— .06
Pneumonia (lobar). Cases . . .	228	153	+75	3.58	2.42	+1.16
Deaths . . .	117	64	+53	1.83	1.01	+ .82
Scarlet fever. Cases . . .	222	318	—96	3.49	5.03	—1.54
Deaths . . .	3	15	—12	.05	.23	— .18
Tuberculosis (pulmonary). Cases . . .	212	193	+19	3.32	3.05	+ .27
Deaths . . .	63	75	—12	.99	1.19	— .20
Tuberculosis (other forms). Cases . . .	40	48	—8	.63	.76	— .13
Deaths . . .	12	12	—	.19	.19	—
Typhoid fever. Cases . . .	3	10	—7	.05	.15	— .10
Deaths . . .	—	3	—3	—	.05	— .05
Whooping cough. Cases . . .	54	126	—72	.85	1.99	—1.14
Deaths . . .	4	8	—4	.06	.11	— .05

KEEP FLIES AWAY FROM

The house.
The baby.
The sick room.

The garbage.
The food you eat.
The milk you drink.

SCREEN

Doors and porches.
Windows.
Foodstuffs from exposure.

Care for Your Teeth.—Bad teeth are often the cause of many illnesses that for years have been troublesome and have been attributed to other causes. A survey of your teeth should be made by a reputable dentist every six months. Set a good example to your children by this manner of education. Don't wait until your teeth ache before you consult a dentist. Attention in time will save many teeth and dollars.

**TO THE STRANGER WITHIN OUR GATES.
WELCOME.**

This year of 1922 finds Boston started on her second century as an incorporated city.

On behalf of our citizens I extend to you a cordial welcome.

In order that your stay may be agreeable, and that you may carry away from the city only the most pleasant memories, I invite you to make free use of the Boston Commercial and Industrial Bureau at City Hall, directly connected with the Mayor's office.

Yours most cordially,

JAMES M. CURLEY,

Mayor.

1559
Rec'd
1922 JUN 12

MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, APRIL, 1922.

No. 4

WORMS.

Among the parasites to which both mankind and animals are subject are various forms of worms. Different kinds of worms may select different parts of the body for their habitat. The *clonorchis sinensis*, or liver fluke, which is prevalent among the Chinese, and comes from eating raw shellfish, prefers the bile ducts. The *echinococcus* which comes from too close association with infected dogs, likewise selects the liver. The *filaris sanguinis hominis*, after being transmitted by the mosquito, circulates in the blood vessels and lymphatics, often obstructing the latter. The *trichinæ*, coming from eating infected pork, finally seal themselves up in the muscles. Even those worms which are regarded as essentially intestinal parasites do not necessarily confine their habitat to the alimentary tract.

The world has been slow to appreciate the part that infestation with worms has been playing in the causation of human misery and disease. A close examination of the muscles of the cadavers in any dissecting room of a medical school will show that while trichinosis is probably not a very frequent cause of death in this country, trichinæ infection to a certain extent is comparatively common, and if the truth were known its acute stages would probably account for many of our supposed cases of rheumatic and typhoid fevers. Hookworm infection has been found to be responsible for the economic inefficiency and even for the supposed racial characteristics of a considerable proportion of the earth's population, yet it has not been easy to arouse interest in the prevention and cure of this infection among the people most vitally concerned.

Tapeworms seem by virtue of their size to have been able to

impress people with awe and fear, but the common roundworms (*ascaris lumbricoides*) and pinworms (*oxyuris vermicularis*) have to such an extent been regarded with a mental attitude engendered by familiarity, that their dangerous possibilities are a comparatively recent discovery.

Most of the parasitic worms to which human beings are subject pass a stage in their life's existence outside of the human body. Beef and fish serve as the intermediate host of the two most common forms of tapeworm. Man usually acquires trichinosis from eating infected pork. The rat serves as the usual intermediary for passing the infection along. The rat eats other rats and the meat of diseased hogs and hogs eat the rat.

The ova of the hookworms in human intestines find their way to the ground and become mixed with the soil. The eggs or larvæ are then accidentally rubbed into an abrasion on somebody's hands or feet. From the lymphatic vessels the larvæ make their way to the lungs, where they cause more or less irritation and secretion. The secretion containing the larvæ is coughed up and a certain amount swallowed and the larvæ find their way into the intestines, where they mature. The ova of roundworms and pinworms, like ova of hookworms, are constantly being passed off in the feces of human beings and animals harboring these worms, and, until recently, it was supposed that persons were infected directly with roundworms and pinworms by swallowing their ova in connection with vegetables or water which had been contaminated with the fecal discharge of infected human beings or animals. While infection can undoubtedly occur in this way, just as hookworm infection can doubtless take place from swallowing the hookworm ova with contaminated food or drink instead of in the roundabout way above described, it has been discovered that the ova of both roundworms and pinworms may hatch in the intestines of individuals harboring the adult worms. Larvæ thus hatched may swarm in enormous numbers and migrate into the stomach and œsophagus and thence down the trachea into the lungs, and actually block the bronchioles by their numbers, set up a fatal pneumonia, clinically indistinguishable from a pneumonia of other origin. Dog-breeders suffer losses of whole litters of valuable puppies from this cause and this peculiar swarming of worm larvæ hatched in the body is certainly the unsuspected cause of some fatal cases of pneumonia in children and is perhaps a more important factor in the mortality of children from pneumonia than has been suspected.

The migratory proclivities of the larvæ are shared to some extent by the adult worms themselves and not infrequently roundworms make their way up to the mouth. Both roundworms and pinworms

may also penetrate the walls of the alimentary tract and work their way into other parts of the body, with fatal results.

The presence of worms in the human body inevitably interferes with the general health and nutrition of the host. A popular idea has been that such an effect is produced because worms appropriate for themselves food elements which would otherwise go to the nourishment of the host. Infestation with hookworms is accompanied with more or less anemia, and it was formerly thought that the anemia was caused by the loss of blood resulting from the constant, even though slight, bleeding which takes place at their point of contact with the intestinal wall. Such bleeding is undoubtedly one factor which makes the hookworm injurious, but the anemic and impaired general nutrition of the host is due chiefly to an actual poisoning of the host comparable to that which results from the bite of a venomous snake. Hookworms, roundworms, pinworms and parasitic worms in general have in their heads glands which discharge a poisonous secretion when the worm attaches itself by its mouth to the tissues of the host, and a person who harbors these worms is constantly absorbing this venom, the amount varying with the number of worms. In addition, the skin of roundworms contains glands which secrete an irritating substance. On cutting into the skin of a roundworm, the contractile power of these glands is sufficient to cause the ejection of this secretion to a considerable distance and it proves intensely irritating if, as is likely to happen, it reaches the eyes of the person who cuts the worm.

There may be a variation in susceptibility to this worm venom. Possibly there may be something resembling an antitoxin immunity to its action. Negroes as a rule do not show so serious an effect from hookworm infection as persons of other races. Occasionally Chinamen and Japanese whose physical appearance indicates good health will be found to be quite badly infected. But apart from the possible effects of their poisonous secretions, their dangerous possibilities in other ways make the presence of any kind of parasitic worms in the body a matter of serious concern. This fact is true of the roundworms and pinworms so common in certain elements of our population, especially in the children.

Infection with roundworms and pinworms may exist without being suspected. The discharge of adult worms probably indicates such condition of the host unfavorable to their existence. Among the people above referred to, infection with worms, even if known, is not likely to be mentioned to the physician who may be called when alarming symptoms of illness develop.

The complete eradication of even roundworms from the body is not always the easy matter that it is assumed to be, as will be often

discovered by continued examinations of the stools for worm eggs after treatment has been administered.

A curious concomitant of the presence of parasitic worms in the body is an increase in the eosinophils in the blood. This possibly may not always occur, but, if not, exceptions are certainly rare. It appears in connection with all such parasitic infection, and even infection with roundworms or pinworms may be accompanied by an eosinophilia so pronounced as to be easily recognized on looking at a specimen of fresh blood under the microscope. While an eosinophilia occurs in connection with other pathological conditions and while in worm infection it may not be so great as to be noticeable at a glance at the blood, nevertheless as a blood count is ordinarily a much easier procedure than the examination of stools for worm ova, and as it offers a means of detecting an important symptom of worm infection, it should be more generally utilized for this purpose. In fact, in the early stage of trichinosis an eosinophilia is a most important symptom of infection.

POISONOUS GASES FROM AUTOMOBILES.

There has been a sufficient number of deaths from carbon monoxide, a colorless, odorless gas found in the exhaust of automobile and other gasoline engines, to advise automobile owners, garage workers, etc., of the necessity of guarding against this dangerous gas at all times. The degree of combustion in the engine influences the amount of carbon monoxide discharged, but even when the engine is operated at moderate speed, the air of a small garage can become poisoned to a dangerous degree in a very few minutes. In large garages also, where there is insufficient ventilation to dilute the gases discharged into it, there is a constant danger of poisoning. Carbon monoxide gas coming from stationary gasoline engines in poorly ventilated buildings and the cabins of motor boats where the gas has accumulated have also been sources of poisoning.

For most people the danger signs are dizziness, muscular weakness, headache, shortness of breath and nausea, any or all, while certain persons possess an apparent resistance to the gas up to a point where they are rendered unconscious and death follows in a very short time unless the person is removed from the presence of the gas. Any of the signs are notice to stop the engine at once and seek the open air. Delay may mean death, since paralysis may prevent escape.

The best safeguard against carbon monoxide poisoning is to make all repairs and adjustments, when the engine must be operating,

in the open air. If this is impracticable, utilize all the ventilation possible through open doors and windows.

A person found unconscious from the effects of poisonous gases from the exhaust of a gasoline engine should be removed at once to the open air, rescuers being cautioned not to remain in the poisoned atmosphere longer than is necessary until the room has been properly ventilated. Artificial respiration should then be applied with the head held low. A physician should be summoned at once, because carbon monoxide kills by its positive action on the blood and not merely by suffocation, and, if insufficient curative measures are taken, even though consciousness be recovered, death may ensue as late as the eighth day.

THE HEALTH UNIT—ITS NEED, ORGANIZATION AND SERVICES.

It has been well said that health instruction is even more important than health legislation, and no less an authority than Dr. Richard C. Cabot years ago expressed what was then regarded as his opinion, but which is now an established fact, that preventive medicine is the medicine of the future. We might go further and say that the perfection of preventive medicine would almost be the absolute elimination of the practice of curative medicine.

Preventive medicine, as its name implies, does not mean the addition of years to the span of life by the creation of new drugs or other forms of medication, but the benefits derived from a constant campaign of education along sanitary, hygienic and dietetic lines. In order to disseminate the above-mentioned principles, one must have a knowledge of the local conditions, particularly in a cosmopolitan section of the city where such advice is most apt to be needed, and where it must be given to the people, in almost all instances, in their native tongue. It also must be given by one or a group of people who are well acquainted with local conditions and needs, and preferably by people who are well known and have the confidence of the local neighborhood. It is in this very essential and important branch of medicine that a local health center plays a prominent part, a fact demonstrated wherever centers have been established.

The health center is not a new organization. It is simply the linking of the medical, social, instructive and charitable organizations already existing in a given district, and the creating of a clearing house where preventive, curative, educational and relief work may be done with the least duplication of effort, friction or delay. In all cities where health centers or units have been established, there existed for many years prior to their innovation a sufficient number

of health and educational agencies which did very splendid work in their respective fields, yet, in many instances, not enough was known about them by the very people they choose to serve. In many instances definite, available and very necessary information as to where these agencies were located, and under what conditions and by what methods people were entitled to their benefits, was unknown to the community at large. The nurse, the doctor, the social service agent and the relief workers were there ready to do their work, and yet the people who needed their services, in many instances, were unable to obtain the quick relief that these splendid organizations stood ready to give. And, therefore, the one great advantage derived from the health center idea has been the bringing together under one roof, and in personal contact with each other, the various agencies doing health, educational and relief work. This, very naturally, did away with the duplication of effort, waste of energy and established a correlation which cannot help but result in a remarkable improvement in the work done for the people in that given community.

The proper function of a health center calls for a constant campaign of education which begins with the mother in the pregnant stage, the care of the new-born child, the pre-school age, the school child, the adult, and even the very old to whom life can be made sweeter in their declining years. Particularly in the school child is the soil fertile for health education, since the child may absorb not only for its own benefit, but a lesson properly taught may be brought home to the foreign-born father and mother. Mothers' clubs, dietetic classes, posture classes, dental clinics, baby hygiene stations, nursing associations, preventive medicine clinic, relief associations, and social hygiene instructions are only some of the many activities that must be included in the program of a well conducted health center.

In 1915 the health center idea received its first impetus when the ones already established in New York, Buffalo, Philadelphia and Cincinnati received the enthusiastic indorsement of the localities in which they served. Boston, always anxious to improve the health of its people, very carefully investigated the health center theory by sending one of its medical inspectors to Buffalo, New York and Philadelphia to make an intensive study of the health center development in those cities. As a result of this investigation, a conference was held in November, 1915, and was attended by leading members of the medical agencies, nursing organizations and other associations interested in the betterment of the health of the people. At this time it was unanimously voted, by all of the above mentioned agencies, to indorse the health unit idea as practicable and essential,

and for the organizations to become a part of the Health Unit which was opened at 17 Blossom street, in the West End, on February 1, 1916. It was very quickly demonstrated what benefits could be obtained by the people of the district, as well as the health workers, by their daily contact and centralization.

Advisory committees, representing leading physicians in the West End, were quickly formed; mothers' clubs organized; baby shows conducted; health exhibits, very largely attended, were held, and a constant program of health education carried on. Shortly after the establishment of this unit, a health exhibit, lasting from March 26 to March 28, was attended by more than 3,500 people, and various speakers pronounced the audiences the most enthusiastic they had ever faced. The progress of the Health Unit on Blossom street and the progress of the health unit idea in Boston was retarded because of the great war, as well as by a change of administration and policies, only to be enthusiastically revived by the present Mayor of Boston, Hon. James M. Curley, who was the originator of the first unit.

At the present time there are housed at the Health Unit the following very active organizations which cater to the medical and nursing wants of the community:

1. The Health Department of the City of Boston, with its various branches — vaccinating division, culture station, sanitary, milk, food and medical inspectors, and baby nurses. It also provides the janitor, clerical assistant and equipment.
2. The Instructive District Nursing Association, with a large corps of nurses, ably and thoroughly doing the bedside nursing in the district.
3. The Baby Hygiene Association with large clinics held twice a week.
4. The Boston Sanatorium with its representatives daily on the premises.
5. The Boston Dispensary physician rendering bedside care of the sick poor.

In addition to the above there are thirty organizations allied with the Health Unit, and on the active committees of the same, representing the various welfare and social agencies doing work in the district.

The importance of the close relationship of poverty to disease cannot be overestimated, and relative value of relief of that poverty is properly appreciated by anyone who has done intensive relief work, or by the doctor who has labored in a community where

poverty exists. The problem of impressing a consumptive, who may be the main support or only support of a family, with need of immediate sanatorium treatment, is indeed a grave one, unless some one can promise to the unfortunate individual maintenance for his dear ones until he is restored to them. Specific instances of this condition are constantly confronted by the Boston Sanatorium representative, the director of the Health Unit, or a charity worker of the district. Here, again, the health center plays its part when the above-mentioned individuals correlate and quickly give to the consumptive the assurance of financial relief, and to the family the necessary admonition of the necessity of sanatorium treatment.

Instances of illness, perhaps of not such long duration, as above mentioned, but where the financial need may be more acute and the relief must be immediate, are readily relieved because of the quick knowledge and transfer of the information from the charity doctor to the charity worker, which is but the work of a few minutes. It can, therefore, be readily seen that so far as is possible the problem of relieving distress can be quickly and best solved by the personal contact established between the charity worker and the physician and nurse who have been on a case of distress, where both sickness and poverty existed.

Blame, so frequently placed upon health departments, for lack of enforcement of food and sanitary violations, and in no small measure due to the failure of the people in a community to properly make complaints, have been minimized by the opportunity presented to bring the various complaints to the local health center. A person is not so hesitant about appearing before a local director of health with whom he or she may be well acquainted to voice a complaint, neither is the one complained of inclined to be so unwilling or rebellious about remedying a defect or violation.

Intensive baby work carried on by the Health Department nurses and the Baby Hygiene Association cannot help but result in the most tremendous benefit to the future generation, and there is no place where the mother is so anxious to bring her child as to the baby clinic where she may find out immediately whether her baby's health has improved or not, since her last conference attendance.

Therefore, it can be readily seen how thoroughly the health and relief work can be covered by the representatives of all the agencies in and out of the unit who are doing active work in the district. It requires no stretch of the imagination to realize how much confidence the people of the district feel in their local municipal clearing house, which after all is what a health center must be and is.

We have enumerated some of the activities of our local health center on Blossom street. It would not be keeping pace with the times if one were content with what has been accomplished. Dental clinics, medical advisory clinics, occupational clinics, and many other ideas conducive to improving health conditions are, and will be, a part of the activities of the contemplated additional health centers.

The greatest opponent of the health center idea, if one existed, must acknowledge that there can be nothing but beneficial results both to the community in which the center is located, and to the worker connected with a unit who is able to do his work without any waste of energy and no duplication of effort. The one who can visualize miniature health departments housing every social, nursing, relief and welfare agency established in various sections of the city, leaving nothing undone to relieve the sick and distressed, has a true conception of the health center idea, and indeed acknowledges that the fight against disease is indeed a local one.

- It is the plan of the present Mayor of Boston, Hon. James M. Curley, to provide and put into operation this year two model health centers in congested sections of the city, following the logical plan of the Blossom Street Health Unit, with such additional improvements as have been made, since the beginning of the single Boston unit, in other experimental and successful efforts. He hopes further, if there is money available, to increase this number next year. He has already manifested a deep personal interest in the health and welfare of the children of the city, and his efforts point to progress in health matters which cannot help but be of inestimable value to all citizens.

SPRING FEVER.

After trying to make quick change adjustments from polluted, superheated, extra dry air, to zero air or cold fog, and fighting consequent nose, throat and lung infections for four or five months, the strongest human body begins to feel the strain. Furthermore, when the warmer spring days come, the body finds that it is suddenly confronted with the problem of getting rid of the unnecessary heat it has developed the habit of generating in order to maintain the normal bodily temperature in the colder weather.

Spring thus finds the average person not only exhausted but with his system clogged with partly consumed fuel.

"Spring fever" calls for no medical treatment beyond what may be necessary to keep the organs of elimination active and it is to be remembered that such elimination is promoted by drinking water

liberally. Exercise should not be neglected. One will be surprised to find how quickly that languid feeling will disappear if he forces himself to take a brisk walk in the open air. Exercise should always stop short of fatigue. It is especially important that physical exhaustion should not be added to other handicaps to good health in the spring.

As to food. Don't overload the body. Most people eat too much in the spring. What the body may have needed in the winter becomes a burdensome or poisonous surplus in the warmer weather. Consistently observe Lent for the benefit of your health if not from religious motives. Furthermore, in connection with this matter of diet it is to be observed that during the winter months one tends not only to increase the amount of heavy meats and fats in his diet but unconsciously to cut out fresh vegetables, particularly uncooked vegetables, so that it probably not infrequently happens that a person's diet in winter is really deficient in the vitamins to be found in fresh vegetables. One should therefore endeavor to get fresh vegetables or fruit, and particularly uncooked fruit or vegetables like tomatoes, lettuce, onions, etc., back into his diet as soon as possible. Salads often offer a palatable means of doing so.

POISON IVY.

With its May number of the "National Safety Council Magazine," the Council will issue a "Health Service Poster on the Dangers of Poison Ivy."

Poison ivy vines or bushes are extremely poisonous. If you touch it or handle it your skin will become red and swollen within a few hours, causing a painful itching and burning sensation. The plant has long stems bearing three leaflets, like a shamrock. Small green flowers hang in clusters between the leaflets. These are followed later by bunches of small dead-white berries.

If you should touch poison ivy, wash your hands at once, using plenty of soap and hot water. Make a heavy lather and wash for five minutes. Rinse four or five times. Use running water, or change water for each rinsing. Do *not* use a brush.

The best treatment is that which you will get by calling a competent physician. In a serious case the patient should go to bed and apply cloths soaked in soda solution (a teaspoonful of cooking soda or borax dissolved in a cup of water). Eat light foods, such as fruit and vegetables, and drink lots of water. Do not apply salve of any kind unless the doctor orders it.

If you have to handle poison ivy, wear rubber gloves or thick leather gloves with gauntlets to protect the wrists. Avoid raising

any dust from the plant. After using, wash the gloves thoroughly with soap and water, and rinse several times. Do the same with clothing which has been in contact with the plant. This will help to prevent the poisonous material or dust from being carried to other parts of your body.

The Health Department is heartily in accord with the sentiments contained above, as gleaned from the "Health Service Poster" of the National Safety Council. Parents especially should caution their children against the dangers from contact with this poisonous plant. If the children once are shown a specimen of the plant, for instance, that knowledge will remain with them. They will shun the plant as a deadly enemy, and urge their companions to do likewise. Adults should acquaint themselves with this plant, too, so that now with the advent of weather conducive to greater outdoor activity and enjoyment they will not carelessly subject themselves to contact with this poisonous plant.

THE RAT SITUATION.

The near approach of a meeting of the New England Committee on Rodent Control, under the auspices of the Chamber of Commerce, and the state, city and town health authorities throughout New England, besides the various civic organizations whose very existence bespeaks an interest in such matters as the preservation of the public health and safety, suggests again the need for impressing upon the public the dangers incident to the existence of rats.

As a danger to health, rats are in a class with the fly, the mosquito and the louse; in that, they are an incipient cause of disease fatal to human beings. For this reason the Health Department has not slackened its endeavors to prevent the introduction into Boston, at least, of disease-bearing rats through the waterfront. The Bacteriological Laboratory of the department examined during the month of April (in addition to about 4,000 other examinations) 917 rats, an average of thirty-eight to the working day. This will indicate to the lay and professional mind the extent to which rats are found in Boston at the present time. It is especially interesting when one considers the area to which this is confined, *i. e.*, the waterfront. It is more interesting when one considers that undoubtedly there are rats throughout the entire city that have escaped the trappings of the department at the waterfront and are now in the midst of the rat's paradise, "Plenty to eat."

It cannot be stressed too strongly that where food is found rats will be found. And naturally where there is no food there are no

rats. This means, of course, the garbage lockers that are left exposed, the garbage that is thrown carelessly about the yards of homes, the food supplies in stores, warehouses, hotels, restaurants, etc., that are left unguarded from the ravages of these rodents whose keen appreciation of food variety leads them unerringly to such places. The remedy is to leave no source of food supply available to them. Tightly covered, metallic receptacles used for garbage will act as barriers between the rats and their meals, and will act also as a means towards their final extinction by starvation; provided, of course, that if what you do in this regard and what I do is likewise done by everybody else, as it should be for their own protection."

Advance supplies of food so necessary in stores, warehouses, hotels and restaurants and other places similarly conducted should be so placed as not to be a harbor for rats or a banquet hall. All food supplies ordinarily packed or stored on the floor should be placed on shelves raised from the floors at least a foot, and in such a way as not to be too easily accessible through walls, as rats delight in finding a food supply near to a place to which they can safely retreat in time of danger. Then, again, everyone should undertake a rat-trapping campaign. This is the surest method of insuring the death of the rat. The Health Department has printed a circular on "How to Get Rid of Rats" which contains instructions to the uninitiated on the best method of trapping.

The need for co-operation from the public is vital in a work of this kind, because especially municipal finances must be conserved so far as possible up to the point where the greater necessity of self-preservation exceeds the necessity for conservation. Personnel available is not sufficient to adequately meet the needs of the situation. Therefore, from an economic standpoint, public co-operation should not be lacking. If ratproofing on a wholesale scale necessary to adequately protect the community from danger became imperative, the economic loss would be so great and would be so keenly felt that the community as a whole would undoubtedly regret any laxity on its part during a campaign of prevention. This is especially noticeable today when it is remembered that the slogan among health authorities is not eradication, which presupposes existence of something requiring that means of suppression, but prevention, which immediately suggests activity precedent to and in place of activity necessary for eradication. If you prevent you have no need to eradicate.

The duty of a citizen, aside from questions of privilege, is to enjoy his rights not to the detriment of others. Bearing this in mind, it should be the aim of each and every individual to do his

part toward the preservation of the welfare, health and safety of the community. Let this word of advice be taken seriously at this time with respect to the rat situation in Boston, and let it cause an increase of interest on the part of all to help make Boston free from the perils attendant upon the existence of rats.

A constructive suggestion in connection with this matter is opportune at this time. The predicated return to prosperous conditions with reference to the building trades should indicate to those having in mind the building of new homes, factories, office buildings and other structures the economic aspects involved. As noted above, it is surely an economical safeguard if in the construction of buildings of all kinds those responsible for the erection of them would see to it that they are so constructed as to be ratproof. If this is done in the beginning, should occasion ever demand compulsory ratproofing of buildings to protect the lives and health of the people, those who had foresight enough to anticipate such a possibility will be thankful that a timely suggestion was adopted when its adoption was not difficult. The outlay of considerable expense only when conditions compel it is false economy.

SCHOOL LIGHTING.

The great problem in school lighting is to get the light to fall from above. Investigations and tests by skilled technicians in the physiology of eyesight have established the fact that our eyes are so constructed that it is more important for the light to come from above than from behind us. The light from the open sky comes from above, and as much from in front as behind, and from both sides, but always from above. This fact has been solved in artificial lighting, but it remains to be solved in the utilization of daylight in schoolrooms.

The first step necessary to secure the best light is to have the windows go as high as possible. It is often stated that a skylight is the ideal window for illumination, but it is not practical; it can only be used in the highest story, or in one story buildings, is hot in summer, and makes the room hard to heat in winter. With these objections the subject is usually dismissed and no attempt made to secure the best light possible through the window, the resource that is admittedly practical.

The window should go all the way to the ceiling. The foot or more of dead useless wall space at the top of windows, if utilized to admit light, would be worth more than 3 or 4 feet from the bottom of the average window. The mechanical difficulties coincident with

having the window begin at the ceiling are nowadays readily overcome by the use of a steel beam, with a flange at the bottom to carry the joists of the floor above.

The use of a shade placed at the top of the window is one of the chief causes of poorly lighted schoolrooms. If any shade is hung at the top of the window it should be white, and of thin, translucent material, which will admit and diffuse all the light possible when the sun is shining directly upon it. Even when nothing but the usual dark shade is available, it is generally practicable to set it from 6 to 18 inches below the top of the glass, leaving a space above it through which the light from the sky can always enter and which will permit sunlight to fall in the room only at certain parts of the day in certain months of the year, when it may come obliquely so as to reach the opposite wall and not fall on the floor.

There has been a general failure to utilize daylight for the schoolroom by neglecting to light the ceiling through the medium of reflection. Highly polished inside shutters can be so placed as to reflect light on the ceiling and prevent it from falling directly on the floor. Outside shutters or reflectors of milk glass or frosted or fluted glass can be used in the buildings so placed that it is impossible to get sufficient clear sky space through a lateral window. These reflectors should be hinged like an inside horizontal shutter to adjust to different angles with the varying direction of the strong light at different times of the day.

The traditions that rooms should have a north light, that the light should come from one side of the room and fall over the pupil's left shoulder have been responsible in some cases for schoolhouses being built with the whole south wall of solid brick with not a window in it. Modern authorities are one in the opinion that other things being equal the light is better on the south side, but the thing to do is to get all the light possible, north, south, east or west.

The essentials for good daylight illumination of schoolrooms may be summarized as follows:

1. The selection of a site and plans such that neighboring trees or buildings shall in no case rise more than 15 degrees above the horizontal plane of the bottom of the windows. Trees that can be trimmed to clear an angle of 60 degrees with the horizon may be permitted in climates where it is advisable to keep the heat down.

2. Control direct sunlight by light shades that will intercept and diffuse it, and draw them out of the way when not in use. Place all dark shades at the bottom of the windows, and draw them up only as needed to the level below which any glare is excluded from the eyes.

3. Use polished shutters that swing on a horizontal axis to reflect light on the ceiling when obstruction to a clear sky renders this help necessary.

4. Place windows high enough to permit light from them to fall at an angle of 15 degrees to 40 degrees in the part of the room most distant from them, shutting off all glare of light below 15 degrees, and place all windows on all sides of the room available, and especially to the south, where the most light is obtainable.

DAYLIGHT SAVING.

The Health Department has gone on record as favoring the plan known as "Daylight Saving" for the very good and fundamental reason that the greater utilization of natural light, which the plan affords, means better health conditions in the City of Boston, and every other city that battles the problem of crowded tenement districts and meager opportunity for out-of-door exercise.

To anyone acquainted with the programs of disease prevention and public health betterment it is a well-known fact that we are freer from the dangerous diseases, such as pneumonia, scarlet fever, diphtheria, measles, whooping cough, etc., in the summer months than we are in the winter months, due, of course, to the fact that we are more continuously in the open for longer periods. Any legislative act that makes possible a greater proportion of time which may be spent out of doors means that the prevalence of these infectious diseases may be diminished.

There were 19,359 babies born in the City of Boston last year. Institution of the daylight saving plan will give to the Health Department another beneficial ally in its efforts to reduce the infant mortality rate and keep these babies healthy because mothers are quick to take advantage of the extra hour that they may spend in the sunlight with their babies.

If it is true that the daylight saving program works a hardship upon farmers in that it lengthens the time of their working day, it is believed that the plan affords the greatest good to the greatest number, and it does not seem illogical to believe that the farmers can adapt themselves to the plan for the sake of the good done the majority.

The statement made by those who oppose the plan that it has a detrimental influence on the health of children because they lose sleep on account of it, is not a proven fact. Children have the habit, as do animals, of getting as much sleep as the body requires. Moreover, the hours of darkness are not shortened, nor can we legislate for or against the profundity of that darkness. Doubtless the sleep

of the children is deeper and more beneficial because of the extra time spent out of doors, and the fact that bedtime comes at a time when houses and bedrooms have had one more hour to cool off and be more comfortable and more conducive to sleep

There is no way of measuring the benefit to those of us who utilize the massed "off duty" period between the time indoor work stops and the time when darkness gathers, by raising home gardens. The exercise in the open and the reward in wholesome, fresh, clean vegetables helps to keep us healthy.

While there are as yet no figures to support the contention, it nevertheless seems logical that the number of occupational accidents, that so frequently occur along toward the close of the working day when the light is poor, are diminished because of the better light still available under the plan of daylight saving. In this connection it is also probable that eyestrain is diminished with the elimination of the necessity for artificial light in the latter part of the afternoon.

THE ANTISCORBUTIC PROPERTY OF FOODS.¹

(Presence of Vitamine C.)

Sherman and Smith, in their recent competent review² of the present status of the vitamins in science and practice, believe it safe to say, on the basis of our present knowledge, that a dietary selected to make the best use of our ordinary staple foods will give little occasion to purchase vitamins in any other form. Moreover, they indicate that it is not necessary to give any greater anxiety to the vitamins than to some other factors which enter into our present conception of nutritive requirements and food values. "When research in this field," they say, "brings us quantitative knowledge as to the efficiency with which vitamine C can be preserved in our staple fruits and vegetables when canned or dried, comparable with our present knowledge of the good preservation of vitamins A and B in cooked, canned or dried milk, it will become possible to plan food supplies, even for conditions in which fresh food cannot be obtained, with a similar degree of definiteness with reference to vitamins as to other nutritional needs."

It has become common knowledge that not only the traditionally used fruit juices but also many green stuffs have considerable antiscorbutic potency, that is, they contain the so-called vitamine C. Some of the highly potent antiscorbutic foods, such as cabbage, turnips and tomatoes, are usually so readily available and so well

¹ Journal American Medical Association, Vol. 78, No. 19, page 1461.

² Sherman, H. C., and Smith, S. L. The Vitamins, New York, the Chemical Catalog Company, 1922.

tolerated that one need not search among more expensive products for protective material. The efficacy of the citrus fruits is widely recognized.

So much misconception and confusion exist, in the minds of those not specially conversant with the subject, about the effect of heat and culinary or preservative processes on the antiscorbutic vitamine that it is important to consider the latest findings as they are reported. The decrease in antiscorbutic potency that milk experiences on heating under certain conditions has too often been translated without reservation to all antiscorbutic foods and finally to all vitamins. Vitamine C is, in truth, much more readily destroyed than is vitamine B by both oxidation and heating, but the rate of destruction depends on a variety of conditions, including the duration of the heating, the opportunity for oxidative changes, and the reaction of the medium. These facts are reflected in the statement of the better preservation of "freshness" and antiscorbutic value in cold storage than in storage at ordinary temperature, and the serious loss of this property when food is kept hot for a long time between cooking and serving.

Givens, McClugage and Van Horne¹ have demonstrated anew the antiscorbutic property of raw bananas and apples, two fruits finding widespread favor in many parts of the world. As bananas are almost invariably eaten raw in this country, no significant problem of deterioration of vitamine potency arises in connection with them. This is not equally the case with apples, which are consumed in a considerable variety of conditions. According to the latest evidence, such application of temperature as is ordinarily employed in preservation by desiccation or canning tends to reduce the amount of antiscorbutic vitamine of the original raw apple markedly. This is a practical fact of importance. We must learn not only where vitamins may be found in our common foods but also the conditions under which they are preserved intact.

Nutritional defects, bad teeth, adenoids and diseased tonsils should be corrected in early life. When suspected of definite disease of the heart, a parent should have such defects studied in the child.

Proper care and food given a child in its early life will combat infections that are likely to appear in later years in a more aggravated form.

¹ Givens, M. H.; McClugage, H. B., and Van Horne, E. G. The Antiscorbutic Property of Fruits; II, An Experimental Study of Apples and Bananas, *Am. J. Dis. Child.* 23: 210 (March) 1922.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING APRIL, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	10	14.71
7 days or less.....	2	2.94
8 to 14 days, inclusive.....	6	8.82
15 to 21 days, inclusive.....	1	1.47
22 to 31 days, inclusive.....	3	4.41
WITHIN FIRST MONTH.....	22	32.35
Within second month.....	5	7.35
Within third month.....	2	2.94
Within fourth month.....		
Within fifth month.....	3	4.41
Within sixth month.....	4	5.88
Within seventh month.....	1	1.47
Within eighth month.....		
Within ninth month.....	2	2.94
Within tenth month.....	3	4.41
Within eleventh month.....	2	2.94
Within twelfth month.....	2	2.94
WITHIN FIRST YEAR PRECEDING DEATH.....	46	67.63
Within second year.....	10	14.71
Within third year.....	1	1.47
More than three years.....	11	16.18
Total.....	68	99.99

DEATHS AND DEATH RATES FOR CERTAIN CITIES, APRIL, 1922.

CITY.	Popula- tion Esti- mated July 1, 1921.	DEATHS DURING WEEK ENDING					DEATH RATES DURING WEEK ENDING				
		April 1.	April 8.	April 15.	April 22.	April 29.	April 1.	April 8.	April 15.	April 22.	April 29.
Boston.....	757,634	237	253	259	223	240	16.3	17.4	17.7	15.2	16.4
Bridgeport, Conn..	149,967	34	30	31	32	34	12.4	10.9	11.3	11.6	12.3
Cambridge.....	110,444	36	23	25	28	39	17.0	10.9	11.8	13.2	18.3
Fall River.....	120,668	41	30	36	36	36	17.7	13.0	15.5	15.5	15.5
Lowell.....	113,757	29	19	40	30	25	13.3	8.7	18.2	13.7	11.4
New Bedford.....	125,012	44	32	38	42	33	18.4	13.3	15.5	17.2	13.5
Providence, R. I. . .	239,645	71	75	63	59	69	15.4	16.3	13.6	13.6	14.9
Springfield.....	135,877	41	29	37	40	31	15.7	11.1	13.8	14.9	11.5
Worcester.....	184,972	54	57	33	43	49	15.2	16.1	9.1	11.9	13.6

SUMMARY OF THE WORK, APRIL, 1922.

BUREAU OF ADMINISTRATION

	Mar.	April.		Mar.	April.
Conferences	0	2	Personnel:		
Hearings	2	2	Appointments	1	13
Prosecutions ordered	20	6	Appointments termi-		
Orders	3	5	nated	2	2
Orders rescinded	1	0	Appointments made		
Special drafts	4	0	permanent	1	1
Forcible removals	2	1	Leaves of absence		
Dump applications disap-			granted	1	0
proved	0	3	Salaries increased	1	0
Lying-in hospitals ap-					
proved	0	3			

LICENSES, PERMITS, ETC., ISSUED.

	Mar.	April.		Mar.	April.
Burial permits	1,029	1,204	Stable permit granted	1	1
Disinterment permits	12	25	Stable permit granted		
Milk licenses	883	1,424	conditionally	1	1
Pedler's licenses, general, ...	119	211	Denatured alcohol li-		
Hen licenses granted	1,050	730	ceses	4	1
Dump licenses issued	9	10	Manicure-massage:		
Roosters permitted on			Granted	21	19
premises	2	0	Beverage establishment		
Sundry	6	2	licensed	9	3
Goat permits	0	4	Grease	36	45
Undertaker licenses is-			Manure	0	3
sued	0	151			

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Mar.	April.		Mar.	April.
Visits by medical inspec-			Vaccination certificates	6	6
tors	1,489	1,933	Cases brought to Boston		
Deaths investigated	22	15	for treatment	80	72
Vaccination	8	9	Antitoxin administered	0	13

NURSING SERVICE.

	Mar.	April.
Communicable disease visits	3,567	4,458
Babies visited, first visit	910	301
Revisits	1,207	1914

HEALTH UNIT (Blossom Street).

	Mar.	April.
Health Department proper:		
Vaccinations	14	6
Vaccination certificates issued	11	13
Cases visited by nurses:		
Communicable diseases	166	*
Complaints made of insanitary conditions	9	5

* Figures not available.

	Mar.	April.		Mar.	April.
Baby Hygiene Association:			Conferences:		
Babies cared for	315	316	Number	9	8
Babies newly admitted, ...	15	26	Total attendance	400	342
			Home visits by nurses, ...	545	426
				Mar.	April.
Boston Dispensary:					
Calls by district physician from Boston Dispensary				120	33
Consumptives' Hospital Department:					
Calls by nurses in districts				781	958
Instructive District Nursing Association:					
Visits by nurses				2,115	2,003
Jewish Welfare Center:					
Conferences held				3	3
Number of children attending conferences				152	130
Visitors:					
City				8	15
Out of city				1	1
General:					
Number of persons applying for information				61	65

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Mar.	April.
New reports	1,390	1,597
Stores inspected	2,370	2,344
Sanitary defects remedied	217	233
Complaints at office	47	58
Referred to Sanitary Division	68	45
Milk applications approved	138	110
Street stands inspected	25	10
Peddlers:		
Applications for licenses approved	106	201
Vehicles inspected and approved	629	688
Court cases	74	9
Fines	\$675	\$365

CONDEMNATIONS.

REQUESTED.

Crab meat	70 pounds
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WITHOUT REQUEST.

Apples	2 bushels	Otanges	2 boxes
Beef flank	55 pounds	Pigeons	586 pounds
Candy	1,170 pounds	Poultry	50 pounds
Cheese	1,190 pounds	Prunes	3,600 pounds
Corn	119 cases	Raisins	500 boxes
Glucose	200 pounds	Pork shoulders	568 pounds
Ham	10 pounds	Smelts	25 pounds
Hog trimmings	50 pounds	Spinach	22 cans
Ice cream cones	18 dozen	Tomatoes	572 cans
Olives	57 barrels	Tonic	49 cases

LIVE STOCK INSPECTION (Brighton Abattoir).

	Mar.	April.		Mar.	April.
Cattle inspected	22	24	Parts condemned	179	160
Calves inspected	4,170	2,388	Animals condemned	4	2
Swine inspected	27	4,097			

DAIRY DIVISION.

	Mar.	April.		Mar.	April.
Dairies inspected	352	231	With milk rooms	236	166
Scoring above 50 *	267	185	Without milk rooms	116	65
Scoring below 50	83	46	Inactive	56	218

* Passable mark.

BUREAU OF MILK INSPECTION.

	Mar.	April.		Mar.	April.
Chemical Inspection of:			Bacteriological examination of:		
Milk	1,637	1,312	Milk	940	650
Ice cream	6	2	Ice cream	93	153
Milk caps for bacteria	80	28	Court cases	19	21
Milk bottles	82	30	Fines	\$335	\$390
Miscellaneous	32	12			

SANITARY INSPECTION.

	Mar.	April.		Mar.	April.
Original inspections	2,034	1,462	Car reports	1,385	645
New reports	2,445	2,267	Complaints	873	917
Reinspections	5,476	5,332	Court cases	18	2
Legal notices served	364	490	Fines	\$27	\$100 20

HOUSING SERVICE.

	Mar.	April.		Mar.	April.
Interior rooms lighted and ventilated	18	16	Water-closets:		
Water-closets:			Relocated	7	4
Interior lighted and ventilated	48	27	Old buildings demolished, ...	4	7
Newly installed	15	8	Plans approved for lighting and ventilation (water-closets)	34	25

BACTERIOLOGICAL LABORATORY.

	Mar.	April.
Examinations for diagnosis and release:		
Diphtheria	2,018	1,921
Tuberculosis	337	308
Typhoid	49	36
Gonorrhea	621	565
Gonorrheal ophthalmia	48	60
Syphilis	1,080	1,133
Other examinations	† 20	* 20
Bacteriological examinations of milk	817	717
Bacteriological examinations of ice cream	63	152
Examination of rats	748	917

* Urine for typhoid, 1; feces for typhoid, 1; spinach for botulinus, 1; paratyphoids, 4; pork for tuberculosis and sarcoma, 1; shrimp for B. Coli, 1; spinal fluid for diplococci, 1; smear for dark-field examination, 1; pus from abscess, 1; genito-urinary T. B., 2; malaria, 5.

† Genito-urinary T. B., 3; malaria, 4; glands for T. B., 2; meat for poison, 1; jam for poison, 1; chocolate for B. Coli, 1; oatmeal water for poison, 1; cultures for virulence, 3; water for organisms, 2; potato water for poison, 1; orangeade for poison, 1.

VITAL STATISTICS, APRIL, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING APRIL, 1922,
WITH COMPARATIVE FIGURES FOR APRIL, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,032	928	+104	16.21	14.70	+1.51
Nonresidents deducted.....	852	854	—2	13.38	13.53	— .15
BY AGE:						
Under one year.....	158	136	+22	2.48	2.15	+ .33
One year to four years, inclusive.....	44	66	—22	.69	1.04	— .35
Sixty years and over.....	368	306	+62	5.78	4.85	+ .93
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	51	62	—11	.80	.98	— .18
Arterio-sclerosis.....	38	40	—2	.60	.63	— .03
Heart disease.....	158	121	+37	2.48	1.92	+ .56
Nephritis, chronic.....	60	53	+7	.94	.84	+ .10
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,441	1,688	—247	22.63	26.73	—4.10
b. Registered stillbirths.....	41	52	—11	.64	.82	— .18
Stillbirths per 1,000 births and stillbirths.....				27.66	29.88	—2.22
c. Deaths of mothers from causes incident to childbirth.....	10	19	—9	.16	.30	— .14
Deaths of mothers per 1,000 births and stillbirths.....				6.75	10.92	—4.17
d. Deaths of children in first year of life..	158	136	+22	2.48	2.15	+ .33
Deaths in first year per 1,000 live births.....				109.64	80.56	+29.08
VIOLENCE:						
Accidents.....	41	31	+10	.64	.49	+ .15
Homicides.....	1	3	—2	.016	.05	— .03
Suicides.....	11	7	+4	.17	.11	+ .06
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	8	3	+5	.12	.05	+ .07
Broncho-pneumonia.....	60	53	+7	.94	.84	+ .10
Cancer.....	99	99	0	1.55	1.56	— .01
Cirrhosis of the liver.....	4	4	0	.06	.06	.00
Diabetes mellitus.....	32	11	+21	.50	.17	+ .33
Diarrhoeal diseases, children under two years of age.....	7	13	—6	.11	.20	— .09

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis.....Cases...	2	—	+2	.03	—	+.03
Deaths..	1	2	—1	.016	.03	— .01
Cerebro-spinal meningitis.....Cases...	—	6	—6	—	.09	— .09
Deaths..	—	2	—2	—	.03	— .03
Diphtheria.....Cases...	215	246	—31	3.37	3.89	— .52
Deaths..	5	11	—6	.07	.17	— .10
Influenza.....Cases...	22	23	—1	.34	.31	+.03
Deaths..	3	2	+1	.05	.03	+.02
Measles.....Cases...	966	559	+407	15.17	8.85	+6.32
Deaths..	5	3	+2	.08	.04	+.04
Pneumonia (lobar).....Cases...	116	149	—33	1.82	2.35	— .53
Deaths..	55	55	0	.86	.87	— .01
Scarlet fever.....Cases...	178	116	+62	2.79	1.83	+.96
Deaths..	4	10	—6	.06	.15	— .09
Tuberculosis (pulmonary).....Cases...	190	189	+1	2.98	2.99	— .01
Deaths..	78	79	—1	1.22	1.25	— .03
Tuberculosis (other forms).....Cases...	26	29	—3	.41	.45	— .04
Deaths..	22	8	+14	.34	.12	+.22
Typhoid fever.....Cases...	5	12	—7	.08	.19	— .11
Deaths..	1	1	0	.016	.016	0
Whooping cough.....Cases...	24	95	—71	.38	1.50	—1.12
Deaths..	1	4	—3	.016	.06	— .04

DOGS SHOULD BE LEASHED.

Because of outbreaks of rabies in the cities and towns adjacent to Boston, and the fact that since last July there have been reported to this department nine cases of rabies and approximately two hundred cases of dog bite, it is deemed expedient to solicit the aid and co-operation of the public to the extent of having all dog owners notified that for a period of ninety days no dog should be allowed at large unless leashed.

In the prevention of the spread of rabies we consider this method more humane to the animal and just as efficacious in its results.

In addition, dog owners should be acquainted with the symptoms of rabies, and this information may be obtained on the back of the dog license, issued by the Police Department.

When considering your vacation spot, are you giving serious thought to the sanitary conditions that prevail there?

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex.
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts	
Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday, Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population				757,634
Live Births	19,397	Birth rate (live births)	25.60	
Deaths	10,217	Death rate	13.48	

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

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MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, MAY, 1922.

NO. 5

DIPHTHERIA — THE SCHICK TEST AND TOXIN=ANTI-TOXIN.

The establishment of a program aimed at the prevention and control of diphtheria has been recently started by the Health Commissioner as one of his functions and it is his earnest desire through painstaking efforts along this line to amply justify this trust.

Inasmuch as approximately 300,000 children in New York and 100,000 children in Chicago have been protected against diphtheria, it is well realized that it will take active work to balance their handicap, but it is felt that this can be done with the help of public opinion, which can be stimulated by the press, physicians and educators, and which will permit the Health Department to accomplish this great work,

The campaign of publicity to eradicate diphtheria which has been begun, and which will be carried on in a more popular form through the press of the city, will do much, and with the solid backing that has been given by the Mayor and the Health Commissioner in this preventive feature, there is no reason to doubt that there will not only be a further reduction in Boston's death rate, but also a reduction in the morbidity rate.

Diphtheria is one of the most dangerous of our acute communicable diseases. In Boston there has been an average of about 170 (see following table) deaths annually for the past ten years. This represents over one and one half per cent of all the deaths in the city. If the value of a single life be taken as an average of \$5,000, this means an annual economic loss of three-quarters of a million dollars. Further financial and educational waste is shown as follows:

The average quarantine period of each case is about ten days.

There have been over 2,000 cases per annum for the past ten years. The annual loss of time for these cases would amount to between 75 and 80 years; 50 per cent of these cases are of school age, causing an annual educational loss of about 35 years. To this must be added the educational loss to the other children in the family who are excluded from school at the same time as the patient. To this loss of time is again added an amount which cannot be calculated but is none the less serious, for whenever there is a sharp outbreak in any educational institution, the entire group must necessarily be disorganized and the work accomplished falls to a very low figure.

The remaining cases are adults and to their loss of time must be added that of the other adults who are quarantined as attendants of the sick of all ages, and where the patient is removed to the City Hospital, the expense falls directly on the taxpayers.

The use and value of antitoxin not only in the treatment of diphtheria but also in the protection of those exposed to the disease is an accepted fact, and is omitted only by the ignorant. Antitoxin is curative in diphtheria if given early enough and protects exposed individuals if given immediately, but the immunization is very fleeting, lasting not longer than ten days or two weeks. Antitoxin has reduced the death rate, but it has had no effect on the number of sick or new cases. All agree that antitoxin cures the disease and it has been shown that the mortality rate of diphtheria has been reduced to a marked degree since its use. But although this is conceded it has also been proven that the actual number of cases have not decreased, but have been about the same from year to year with the same unnecessary expense to the afflicted person and the taxpayer.

In 1913 Doctor Schick developed the test which bears his name, the use of which determines those who are susceptible to diphtheria and those who are immune to the disease. This is a simple, harmless, painless injection of a drop of fluid between the layers of the skins; if the individual is susceptible to diphtheria, a painless reaction takes place; if no reaction ensues the individual is immune.

Before we had this knowledge all persons exposed to diphtheria were given antitoxin whether they were susceptible or not. This necessarily was not only an additional expense to the afflicted, but also to the taxpayer. The Schick test has pointed out the individual who should or should not receive antitoxin on exposure to diphtheria.

Even this knowledge did not help to reduce the actual number of diphtheria cases, but it stimulated men like Behring, Park, Smith, Zingher, and others who were pioneers in the antitoxin treatment for many years to improve their methods, and after exhausted experiments they found that a lasting immunity could be established by

the production of antibodies (protective) in the individual himself by the use of minute amounts of diphtheria toxin in combination with antitoxin.

This combination is not only entirely harmless but it also bids fair to prove a permanent protection lasting for life.

From the beginning it has been shown that there was absolutely no danger from the inoculation and it has been definitely shown that as year after year passed a great discovery had been made, as practically all who had been inoculated continued to show by the Schick test that they were still immune and that this immunization could be compared favorably to the vaccination against smallpox which has reduced this disease from one of the most dreaded of plagues to something which it is unnecessary to have.

Boston was far behind in giving consideration to this progressive step in disease prevention, and His Honor Mayor Curley was only a short time in office when he decided that it need not remain so—his slogan has been that the people of Boston should not be exposed to greater dangers than the people of New York, Chicago, and the rest of the State of Massachusetts when the Boston Health Department knew how to save them. The Boston Health Department has already made a beginning, but it needs not only the co-operation of the medical profession but also of the school authorities and the public to carry the work along to at least as successful a conclusion as has been done in other municipalities.

The period of life which has most cases and deaths from diphtheria is the same period which shows up as least protected and most susceptible, namely pre-school age (from birth to five) and the early school age up to ten years.

Pre-school Age.

These children come under the care of the family physician primarily. It is he that the Health Department seriously pleads with to help protect children of pre-school age, and it has been shown that inoculation in a child six months old or over gives protection readily and the younger the child is the less severe the reaction.

The Health Department will gladly Schick and immunize all children referred by the family physician or requested by parents or guardian.

The Schick and toxin-antitoxin is supplied by the Massachusetts State Department of Health laboratory on the same basis as antitoxin.

The annual birth rate of Boston averages about 20,000 and the Boston Health Department hopes, with the co-operation of the physicians and the public to Schick and immunize this group as soon as possible. This is a big undertaking, and the success and rapidity

of the work depends, not only on popular opinion but also on the facilities offered by the department.

School Age.

The sets of schools in Boston harboring children of this age are three — public, parochial, and those under private agencies.

The medical inspection of the public schools is adequate and presumably ready to carry on the work begun in their schools, but even though they were able to protect all the children under their jurisdiction it would still leave a large number unprotected. This is, however, a public health problem and the department is willing and ready to protect and has been protecting these school children who have no health administration of their own.

The School Committee supplies the sinews of diphtheria protection for the public schools and the Boston Health Department is prepared to help the other schools (either with or without medical supervision if they so desire.)

Summary.

1. Large groups are readily accessible, easily controlled, supervised and followed up.

2. School age groups are responsive to education and to health work and can be made to understand the importance of the procedure.

3. The school child can carry the story of diphtheria prevention into the home and prevail upon parents to have the younger children tested and immunized.

4. The co-operation of the school and health authorities will enhance the efforts and further educational propaganda.

5. As the general public comes to learn through the school children of the simplicity of the test and the practical harmlessness of the toxin-antitoxin injections, the application of both to the younger and more susceptible group would follow as a matter of course.

Recommendations.

1. Physicians, laymen and educators to aid and abet in promulgating this new departure in preventive medicine.

2. Parents to avail themselves of the opportunity to protect their children without expense.

3. Sufficient publicity through press, public lectures, and demonstrations, to thoroughly familiarize the public in the great value of the saving of lives and prevention of diphtheria, and

4. The entire population to lend its moral support to the praiseworthy effort of the chief executive of the City of Boston — Mayor Curley.

DIPHTHERIA.

Cases and Deaths for Years 1910 to Date.

YEAR.	Cases.	Deaths.	YEAR.	Cases.	Deaths.
1910.....	2,453	158	1917.....	4,098	278
1911.....	2,108	124	1918.....	2,832	217
1912.....	1,539	102	1919.....	2,670	153
1913.....	2,203	156	1920.....	2,010	140
1914.....	2,807	169	1921.....	2,992	148
1915.....	2,981	218	1922, through May 31.....	* 1,329	56
1916.....	2,407	185			

* First five months.

Number of Schick tests performed 524

REACTIONS.

Positive 291
 Positive combined 32
 Negatives 154
 Pseudo 46
 Immunization certificates issued 200

TOXIN-ANTITOXIN IMMUNIZATIONS.

First injection 212
 Second injection 74
 Third injection 37

CULTURES TAKEN.

Negatives 308
 Positive 19

MISCELLANEOUS.

Cases uncompleted 6
 House visits in connection with Schick 1
 Demonstrations to medical inspectors 20
 Encephalitis Lethargica investigations 23
 Trichinosis investigations 4
 Cases unread 1

WHAT IS THE SCHICK TEST?

It is many years since methods were discovered for growing artificially in the laboratory the Klebs-Loeffler bacillus, the causative agent of diphtheria. It was found that in connection with the growth of these bacilli in the laboratory there resulted a very poisonous product, or toxin as it is called. It was long ago discovered that when small amounts of this diphtheria toxin were injected into animals, such animals would after a while develop in their blood a

product which would neutralize and act as an antidote to the diphtheria toxin and prevent the poisonous toxin from harming the animal even if injected into the animal in large amounts. It is in this way that the diphtheria anti-toxin now generally used in the treatment of diphtheria is produced. The horse is given small doses of diphtheria toxin prepared in the laboratory and after a while blood is drawn from the horse and the anti-toxin extracted from the horse's blood.

It was only a few years ago however that another practical use for diphtheria toxin was found. It had long been recognized in a general way that many children and most adults were immune to diphtheria; that their blood naturally contained or had developed the diphtheria antitoxin so that even if they were infected with diphtheria they would not be made sick,. No way was known, however, of telling whether any particular individual was immune to diphtheria or not until a few years ago, when it was discovered that if a minute amount of the diphtheria toxin was injected in a person's skin, just under the surface of the skin, a peculiar discoloration of the skin would appear at the spot in a few days if the person was susceptible to diphtheria, whereas no discoloration at all, or a different kind of discoloration would appear at the spot if the person's blood contained antitoxin and the person was immune to diphtheria. This is what is known as the Schick test. If the injection be properly done, just under the outer layer of the skin, as boys often stick pins under their skin, the test is not only painless and without danger, but in over 90 per cent of people will indicate unmistakably by the distinctive character of the discoloration at the spot, whether the person is immune to diphtheria or not. In a small proportion of people, less than 10 per cent, the injection of the toxin may produce a local condition which will look different from the results produced in most people, pseudo reactions as they are called, but even in these cases it is possible after some practice to tell whether the person is immune or susceptible to diphtheria. The Schick test is painless and without danger and when carried out by a person with some experience furnishes an absolutely reliable means of telling whether a person is immune or susceptible to diphtheria. Mistakes in connection with the test occur from two causes. One cause is injecting the toxin too deeply, in which case a susceptible person will not show the characteristic reaction which a susceptible person should show and consequently may be credited as being immune. The other cause is the misinterpreting, through inexperience, of the pseudo reactions.

In addition to the Schick test above described another practical use of the diphtheria toxin has been developed. It has been found that if a person who is susceptible to diphtheria be injected with repeated doses of a very small amount of a mixture of diphtheria

toxin and diphtheria antitoxin, it will stimulate the development of the diphtheria antitoxin in the person so that after a while, perhaps it may take six months, the person will become immune to diphtheria. It is of course possible to produce an immunity in a few hours in a susceptible person by giving a fairly large dose of antitoxin as is often done to a person who has been exposed to diphtheria, but an immunity produced in this way cannot be depended upon to last more than a few weeks, whereas the immunity produced by repeated small doses of a mixture of the toxin and antitoxin will last a lifetime, but takes weeks or months to develop.

One application of this discovery is to test out persons with the Schick test and if they are found to be susceptible then to immunize them with small repeated injections of the toxin-antitoxin mixture. Another way is not to bother with the Schick test at all but starting in at once with immunizing doses of the toxin-antitoxin mixture. If the person is already immune it does no harm. This is the usual procedure when dealing with young children because so large a proportion of them will be found susceptible to diphtheria. In dealing with older persons, however, who are to a much greater extent naturally immune, there may be some saving of time and labor if a Schick test be made first. There is also another reason which under some circumstances may make it preferable to do a Schick test on older persons, while there is no danger to any one in doing the Schick test or the toxin-antitoxin method of immunization, a full immunizing dose will cause a swollen and painful arm in those individuals who show a certain kind of a pseudo reaction when tested with the Schick test. While this result is not dangerous and does not produce a result anything like an ordinary smallpox vaccination, it can, of course, be avoided by giving a Schick test first and then giving smaller immunizing doses if it be found necessary to immunize. Young children rarely give these pseudo reactions. They represent a condition which tends to develop with age, if at all and therefore it is not the same reason for giving a young child the Schick test first to avoid a painful arm. There have been no dangerous results recorded from giving hundreds of thousands of Schick tests and immunizations. A great deal has been heard of twelve deaths in Texas in connection with immunizing children against diphtheria, but these deaths were due to the fact that a commercial house put up and sent out a batch of the wrong material in place of dilute diphtheria toxin, and really constitute no more reasons for objecting to the procedure of testing and immunizing against diphtheria than the fact that oxalic acid has been put up by commercial houses as epsom salts and tartar emetic as salaratus, constitutes a reason for not using epsom salts or salaratus.

TECHNIQUE — REACTIONS — ABSTRACTS AND COMMENTS OF INVESTIGATORS.

1. TECHNIQUE — REACTION.

These are contained and minutely described in the outfit distributed by the State Department of Health Laboratory, Forest Hills, Mass.

2. ABSTRACTS AND COMMENTS OF INVESTIGATORS.

By WILLIAM H. PARK, M. D., *Director*, Bureau of Laboratories, New York Health Department.

1. The results of twenty-five years of experimental and practical investigation of the immunizing effect of toxin-antitoxin injections are as follows:

Three injections, 1 cc. each, of a suitable toxin-antitoxin mixture, spaced one or two weeks apart, will cause about 85 per cent of susceptible children or older persons to develop sufficient antitoxin to give the negative Schick reaction and produce protection against diphtheria. The duration of the immunity in at least 90 per cent of the children is for more than six years and probably for the remainder of life.

2. A toxin-antitoxin mixture of stabilized materials which is safe when it leaves the laboratory, cannot become more toxic on being kept. No serious effects have ever resulted from the injections given to the New York children since we began our work seven years ago.

3. *Safety of Toxin-Antitoxin Injections.*—In utilizing a substance which is a combination of a poison and an anti-poison, it is of extreme importance to be certain that there is no possibility of a properly neutralized mixture becoming at some later period toxic. We have tested out many mixtures and kept them at all possible temperatures and always found that the mixtures became very slowly more and more overneutralized. The antitoxin portion of the combination is more stable than the toxin. The only objection to using products that have been kept a long time after neutralization is that they are somewhat less effective. The only accident that has occurred in the use of toxin-antitoxin mixtures, so far as is known, was due to an error through which an improperly tested product was sent out. The regulations now adopted by all biological plants makes a repetition of such an accident impossible.

4. In two years the mortality from diphtheria has fallen from 22 per 100,000 to 16 per 100,000. This is the lowest diphtheria death rate New York City has ever had. During these same years the mortality in the rest of the state has slightly increased. Although these changes in the death rate are insufficient to be conclusive as to the effect of the injections, they are certainly encouraging.

5. In our contagious disease hospitals, we have for over five years depended on a negative Schick test as an assurance of safety from the development of diphtheria through contact infection with carriers in the wards. The other patients showing the positive test have received immunizing doses of antitoxin. We have during this time had no case that we considered to be diphtheria develop in a patient while he gave a negative Schick test. Before the use of antitoxin or the Schick test and toxin-antitoxin, we averaged yearly a mixed infection with diphtheria of about six per cent.

6. *Constitutional and Local Reactions Following the Toxin-Antitoxin Injections.*—These are negligible in the infant. In adults the reactions are about as severe as with the typhoid inoculations. The most severe reactions are restricted almost entirely to those who develop the marked pseudo reaction with the heated or overneutralized toxin.

7. *The Antitoxin Response and the Permanence of the Immunity Acquired.* — Late in 1913 we began the practical use of toxin-antitoxin injections for the immunizing of children against diphtheria and established the facts that the procedure was harmless and that after three injections about 80 per cent of those individuals possessing no antitoxin or insufficient antitoxin to protect from diphtheria, developed immunity. Those showing positive Schick reactions and receiving two injections, developed negative Schick reactions in about 70 per cent; those receiving one injection, in about 50 per cent. We soon realized that the most important problem was the duration of the antitoxin immunity in those that had developed antitoxin. A satisfactory answer to this question required that immunizations be carried out in institutions where the children would be under observation for a number of years. A few suitable institutions were immediately sought for and obtained by Dr. A. Zingher and, later, additional ones were added by Dr. M. C. Schroder. We have thus been able to keep under supervision for from three to six years some ten thousand children. From year to year Drs. Zingher and Schroder are re-applying the Schick test to these original children. With a few of them we are now beginning the seventh year of observation. We have had no serious immediate or late after effects. In these institutions diphtheria has not developed in any child who has received three injections. Eighty per cent of those who received three inoculations have developed sufficient antitoxin within three months to prevent the positive Schick reaction. Fifty per cent of the remainder developed antitoxin immunity sufficient to give the negative Schick test before the end of the first year. The remainder received then or later a second series of injections and all of these concerning whom we have information became immune. In some later investigations we have met with occasional children who resisted even two series of injections.

BY THE COMMITTEE ON PUBLIC HEALTH OF THE CLEVELAND CHAMBER OF
COMMERCE.

1. The Schick test has taught us who were liable to diphtheria in a school, in an asylum or a family. From the beginning it was clear that there was absolutely no danger from the inoculations, and the only question was whether the protection was lasting enough to make it worth while doing on a large scale. This is the final test in any of these protective inoculations, and where the protection is short it becomes an emergency measure and cannot be made general in its application. But as year after year passed and practically all those who had been inoculated continued to show by the Schick test that they were still safe, it became evident that a great discovery had been made.

2. When 150,000 have been inoculated in New York, 60,000 in Chicago, and proportionate numbers in other parts of the country, with over 90 per cent of successful protection, every self-respecting community owes it to itself to see that its members have the same privileges as have been given in other places.

3. What would be the results if toxin-antitoxin was generally used for a few years? Every inoculation makes one less possibility. Soon diphtheria would be like smallpox, confined to those who refused to accept the lifeline. In New York already there has been a reduction in the number of annual deaths from diphtheria, and every reduction in deaths from acute diseases helps the total death rate of the city and its reputation as a safe place to live.

4. Every case that is successfully protected is not only removed from danger but becomes a missionary, and helps along the good work. Can we afford to let the children of Cleveland be exposed to greater dangers than those of New York and Chicago when we know how to save them?

BY THOMAS E. LILLY, M. D., SHIRLEY, MASS.

1. Toxin-antitoxin does give absolute immunity to diphtheria when more than one month has elapsed after its administration, and that it causes no such troublesome and alarming reaction as antitoxin often does, and that the immunity persists indefinitely.

2. The Schick test and active immunization should be used in schools, camps, institutions and communities where diphtheria persists and where there is no immediate demand to protect life.

3. The writer's four years' experience with the use of toxin-antitoxin in the prevention of diphtheria, during which time he has immunized more than one thousand persons, every one of whom, when available, has been given the Schick test after periods varying from three months to three years from their initial dose of toxin-antitoxin and practically all of whom, especially after the longer periods, give a negative Schick reaction, has made him optimistic enough to hope that in this method we have a means of exterminating diphtheria.

4. We all know that smallpox is almost a medical curiosity through the persistent use of vaccination.

5. We have seen a statement from Surgeon-General Gorgas recently that yellow fever, that plague of tropic latitudes, has been banished from the face of the earth. In view of these marvelous results of modern scientific medicine, is it too much to expect or to hope for that by appropriate legislation compelling all school children, who are admittedly the greatest carriers of diphtheria, to submit to classification by the Schick test and immunization of all non-immunes by the toxin-antitoxin method, we may be able to accomplish as much in the extinction of diphtheria as has been done in the above-mentioned diseases. Considering the great loss of life as well as the serious sequelæ of this disease let us ask ourselves if any greater boon could be given the human race, particularly the younger portion, than to make the incidents of this terrible disease practically negligible. It is unquestionably the duty of those who have an opportunity to investigate this method of immunization and, if they find it effective, to educate first the medical profession and through it the public, with the end in view of obtaining legislation compelling the administration of this prophylactic to all children upon entering school and later in life, if necessary, to obtain permanent immunization to this dreaded disease.

BY EDWARD L. BAUER, M. D., Department of Public Health, Philadelphia, Pa.

1. The Schick test is of distinct value if immunization is possible with toxin-antitoxin.

2. In more than twelve hundred cases given toxin-antitoxin, including all ages, we noted several facts of considerable interest. In institutions where diphtheria was previously constant and this combined procedure employed, diphtheria does not now occur. We have noted that young children give no constitutional reaction to toxin-antitoxin.

3. Children that react to toxin-antitoxin do so only after the first dose, as a general rule, and reactions to subsequent doses are milder, if they occur at all. None of the reactions were as severe as many that one sees following vaccination against smallpox. Our observations on these and other reactions in children lead us to consider this statement a conservative conclusion judiciously arrived at by a cautious observer.

4. The work of the Philadelphia Department of Public Health for the present has been confined to the orphanages. Despite exposures, we have had no diphtheria in those children upon whom we have completed our work.

5. Since the greatest incidence of diphtheria occurs principally in young childhood, and since our records show a "dead level" with our present methods of prevention, it behooves us to make this clearly demonstrated method — Schick testing and active immunization of susceptibles — a universal practice, especially among our young children, so that they will not succumb to this loathsome malady, and our health reports will show a clean sheet in the diphtheria incidence columns.

INFECTIOUS JAUNDICE.

For over a hundred years there have been noted in this country from time to time epidemic outbreaks of a disease accompanied by fever, jaundice and other symptoms sufficiently distinctive to cause observers to recognize that the disease was due to some sort of an infection and that it was different from other diseases with somewhat similar symptoms. The disease was described among soldiers both in the War of 1812 and the Civil War. It has also occurred in the civil population, particularly in rural communities. During the last forty years outbreaks have been described in at least fifteen different states. An outbreak was reported among the students of Dartmouth College in 1908, apparently starting among students who were doing surveying work. A similar small outbreak was reported among students of the University of Michigan. For the last two years the disease has been attracting special attention by reason of its widespread prevalence in New York State. Investigations of the disease in this country, infectious jaundice, as it has come to be called, has brought out the following characteristics. Among eighteen recorded outbreaks in this country since 1850, with a total of practically 3,000 cases, there have been but five deaths actually recorded. There is, however, reason to believe that the death rate has really been somewhat higher.

The disease, as it has occurred in New York State and adjoining territory is described in an article by Dr. Edward S. Godfrey, Jr., State Director of Division of Communicable Diseases, appearing in the January, 1922, number of the monthly bulletin of the New York State Department of Health.

In 121 cases investigated in one outbreak "all were characterized with sudden onset, sometimes with chills and fever, headache, nausea, vomiting and either obstinate constipation or marked diarrhœa." The investigator reports that "jaundice was present in only 50 per cent of these cases. When present, it developed on the fourth to seventh day, sometimes accompanied by an enlarged and tender liver and spleen. Fever was not constantly noted but when observed it fell by lysis. Nervous symptoms were marked." The entire course from onset to recovery lasted about three weeks. In

about 30 per cent of these cases hiccoughs lasting from forty-eight to seventy-two hours was a prominent symptom. Epistaxis occurred in a considerable proportion of the cases and in at least two instances necessitated the packing of the nasal cavities. In four cases purpuric spots were noted on the legs and in several instances there was a diffuse uticular rash. In another locality it was reported that jaundice was present in all the cases and usually tenderness of liver and gall bladder. In view of the variation in the symptoms in the cases investigated in New York, the question was raised whether there might not be two different kinds of epidemic infections with a general similarity in symptoms prevailing in the same localities at the same time. There was a tendency in some localities to regard the symptoms as a manifestation of an influenza infection and in this connection it may be noted that jaundice was a not uncommon complication of the type of influenza which prevailed in Boston the past winter. The New York Health officials, however, feel they were correct in assuming the same infection was present in all their recorded cases and point to the wide variation in symptoms in cases of the infectious jaundice of other countries presumably due to the same kind of infection which gives rise to the American cases. It would appear, however, that all attempts in this country have been successful in demonstrating in American cases, either directly from patients or by the inoculation of guinea pigs, the spirochetes which have been demonstrated in the European and Asiatic forms of infectious jaundice. From a rather extensive examination of rats in this country, however, it would appear that about 10 per cent of our wild rats are infected with a spirochete which Noguchi has found to be identical with the spirocheta icterohemorrhagiæ of European and Oriental rats and regularly recovered from human cases of epidemic jaundice in Japan and in Europe.

In Europe epidemic jaundice has been known and described under the name of Weil's disease. During the late war it appeared from time to time among the soldiers of the various nations engaged. On the Western front it was commonly referred to as trench jaundice.

As the disease appeared among soldiers it was characterized in typical cases by the following symptoms. A sudden onset, often a chill, fever, vomiting, pains in neck and bones, and decreased urine. Albuminuria soon manifests itself. In from three to five days jaundice usually appears, although in many cases due to the same infection jaundice did not appear at all. In a typical case, a drop in temperature precedes the appearance of the jaundice and at the same time hemorrhagic spots and bleeding gums appear. The temperature then tends to rise again and thenceforth follow an irregular course. Severe herpes are likely to appear. Obstinate constipation

usually occurs. After from seven to fourteen days the temperature disappears. Convalescence is very slow and characterized by marked mental depression and general physical weakness. The mortality was estimated at from 6 per cent to 8 per cent, death usually occurring the third or fourth day from failure of the liver cells. Wide variations occurred among the soldiers both with respect to the severity of the disease and the character of the symptoms. Military medical officers were cautioned to differentiate the disease from pneumonia with jaundice, catarrhal jaundice, jaundice from tri-intro-toluene poisoning and from the results of picric acid taken by malingersers. The ingestion of from 2 to 5 cc. of picric acid will produce a jaundice without other symptoms and the stools and urine will be normal.

In Japan and India the disease is much more severe. The mortality in Japan where the cause was first found to be the *spirocheta ictero hemorrhagicæ* is estimated at from 30 to 40 per cent. It would appear also that the rats in Japan are infected to a greater extent than in Europe or America.

It has been noted that in all countries the disease has been more generally observed among people who come in close contact with the soil—among miners and farmers especially. The *spirocheta ictero hemorrhagicæ* is found in both rats and mice, but especially in rats. It lives in the kidneys of the rats, apparently without harm to the animal and is excreted in the urine. The *spirocheti* has been demonstrated in both the blood and urine of human patients. The manner in which human beings become infected has never been demonstrated but it is presumed that they may be infected by food or hands contaminated with the urine of diseased rats or human beings. It is stated that the urine of human beings may continue to be infectious for five weeks after recovery. It is also believed that the *spirocheti* has the power of passing directly through unbroken human skin. In the cases occurring in the military hospitals in Western Europe during the war it was insisted that the sputum and excreta of patients should be disinfected.

In many of the cases occurring among the soldiers in Europe during the war diagnosis was confirmed by injecting 3 cc. of the patient's blood into a guinea pig and on death of the animal recovering the *spirochetes* from its body. The organism was also in some instances recovered from both the blood and urine of patients. Success in this procedure was however exceptional. In the type of the disease which usually occurs in Europe or this country the number of *spirochetes* the patient has is probably comparatively small and the failure thus far to recover the organism from American cases is perhaps due to the relative scarcity of the organisms. White rats have been blamed for spreading this disease. It has also been suggested

that both rats and human beings may receive their infection from some common and as yet unknown source.

In the treatment of the military cases in France the Martin-Pettit serum appeared to give good results if administered before the jaundice appeared. Its administration after was useless. Various arsenical preparations, including arsphenamine, have been tried without beneficial results and except as above noted the treatment must be regarded as a matter of treating symptoms as they may arise.

INSANITARY AND DILAPIDATED STRUCTURES TO BE REMOVED.

The plan of the Health Commissioner to remove by demolition a number of old, uninhabitable and insanitary ells and buildings in the city should receive the approval of not only all citizens of the community, but also the owners of such premises. Such dilapidated buildings are not only a fire menace, but are a source of filth, and a general nuisance in the neighborhood, not to speak of the fact that they are eyesores to the locality, a deterrent to improvement of other buildings and a detriment to the values of adjoining buildings. There appears no good reason to allow these structures to remain when we consider that their condition is such that it is poor economy to improve or attempt to improve them, and that the owners are obliged to pay some municipal taxes — taking into consideration their deteriorated condition — without any apparent source of income to meet such taxes from such property. In other years when progress was made in the removal of many old buildings, the department had the co-operation of the owners who allowed the Health Department to remove them. This department did so at the expense of the city, and in cases where the adjoining building was damaged in the process the city also paid the cost of putting them in a presentable condition.

The city's motive in doing this work is not only that the neighborhoods affected will be improved, and the general conditions of the city made more sanitary, but also because it will afford a greater measure of sunlight and air to adjoining substantial structures that for years have had their share of such natural benefits blotted out. The reduction of fire hazard as a result of these removals is also of municipal benefit. His Honor the Mayor has taken a keen interest in and has indorsed this work, and at his suggestion, and with the co-operation of the Building and Fire Departments, the Health Commissioner is causing a survey of the entire city to be made with the view of educating and convincing the owners of such insanitary and dangerous structures that they should remove or allow the city

to remove these buildings. It is the earnest desire of the department that owners of such property agree to the plan of the department to cause such structures to be removed, and it is willing and anxious to receive the co-operation of all citizens, not only from those who own these buildings, but from persons who live near a building or buildings which in their opinion should be removed.

This month the department is starting to remove many of the buildings so reported, and it has received the assistance of the owners. Of course the department can cause such buildings to be removed at the expense of the owner in cases where, in the opinion of the Health Commissioner, and where such structures cannot by repairs be made habitable, they are a nuisance or source of filth, but the civic accomplishment will be so much greater if effected through co-operation with, rather than coercion exercised over, the persons directly concerned.

DISCHARGE OF FUEL OIL; OIL POLLUTION OF WATERS WITHIN AND WITHOUT THE THREE-MILE LIMIT.

The Massachusetts Department of Public Safety in April, 1921, adopted certain regulations prohibiting the discharge of oils into or on the waters of the Commonwealth, and governing the transportation, handling and delivery of fuel oil to or from vessels in harbors and on other waters of the Commonwealth. These regulations are admirably adapted to control the growing menace to health and to safety, locally, caused by the ever-increasing use of fuel oil as a means of propulsion on ocean and coastwise steamers and the consequent discharge of the wastes from the fuel oil into the harbors or other waters of the Commonwealth.

The depositing of crude petroleum or any of its products, or any other inflammable oil, or any bilge water or water ballast containing any oil substance, into the waters of the harbors or the other waters of the Commonwealth is a source of constant danger from a fire standpoint, and has an alarming tendency to destroy animal and fish life which comes in contact with these deposits. Shellfish contaminated with oil are apt to cause serious illness or perhaps death when eaten. Local fish will, if they have not already been driven away, surely be driven from their present local habitations to non-infested waters as the particles in the water from which fish obtain their food have become polluted so as to cause them to be repellant rather than attractive agencies. Local fish industry will accordingly suffer, and the lack of frequent supplies of fish for food purposes will increase the cost of this commodity to consumers. Birds now accustomed to resort to the sea as a feeding ground are being slowly

extinguished because of the contamination of their food with oil refuse, and their inability to manipulate their wings because of the deadening and exhausting weight of oil attached thereto from contact with the oil infested waters. Their limit of endurance is surely reached very soon, and there is nothing left for them but to die.

Then, too, consider the danger of too great accumulations of oil wastes on the waters to which thousands resort each summer for relaxation and enjoyment in the way of bathing and swimming. The eyes may be irreparably damaged, skin diseases may become epidemic, and the waters of the ocean and inland navigable streams likewise similarly polluted, may become merely the highways of oceanic transportation, and the byways through which the smaller maritime interests may contribute their share toward water-borne industrial communication.

Consider, also, the alarming increase to modern fire hazards, in spite of every known aid to the science of fire prevention, which the constantly increasing deposits of oil wastes along the waterfront wharves and structures will inevitably create. The underpinning of these structures will become so saturated with oil or other inflammable liquid refuse that it may become an impossibility to cope with the incipient fire tendencies thus existing.

But in considering these dangers from a seemingly too lax attention to their potentialities, it should not be forgotten that the present trend in maritime circles, and in shore industries too, is toward the consumption of fuel oil for power and propulsion. This is an industrial asset which should be encouraged and fostered. Its use as an economy has become not merely a local or national consideration, but an international consideration. It is this fact which should be the basis upon which remedial measures should establish themselves. Within the three-mile limit the juridical authorities may regulate, and already have, regulated the discharge of oil substances into harbor or other waters. But outside the three-mile limit international jurisdiction asserts itself, and it should therefore be through international agreement or co-operation that regulatory measures may be carried into effect which will eliminate from local consideration the dangers attendant upon the discharge of these oil products into harbor waters. No matter how stringent local regulations may be, if ocean-going fuel-burning steamers may discharge fuel wastes just beyond the three-mile limit it is a natural impossibility to prevent the influx of the discharge by means of the ebb and flow of tidal waters, the dissemination of the refuse thus deposited throughout the expanse of water over which it travels not being sufficiently rapid to prevent its harmful appearance in harbors nearby. But with international regulation compelling discharge, if at all, of oil products

only when beyond a sufficiently remote distance from harbors the danger of oil accumulation in local territorial waters will be reduced to a minimum. Some such co-operative effort should be made to minimize the dangers to animal and bird life, to human safety and welfare, and to property through this agency, because of the approaching universal use of fuel oil as a means of propulsion, especially in water-borne transportation.

GIVE PROPER FOOD TO CHILDREN.

Much of our success depends upon good health. To have healthy men and women the welfare of boys and girls — the future adults — must be given adequate attention and oversight. Food materials are of vital importance in the upbuilding of youth to the adult stage. Consequently parents and others catering to the needs of the young should devote much attention to the kind of food materials supplied for their consumption.

Youngsters thrive best when fed upon substances like milk, cereals, thick soups, an abundance of vegetables, not too much meat, fruit, raisins, figs, dates.

Provide the above for the little men and women of today, rather than substances like tea, coffee, sodas, candy, doughnuts and thin soups. Restrict the amount of meat consumed and encourage the use of vegetables.

MEDICAL ADVISORY BOARD.

The first meeting of the Medical Advisory Board, appointed by His Honor James M. Curley, met in the office of the Health Commissioner on May 10.

Those present at the meeting were Dr. F. X. Mahoney, Health Commissioner; Dr. John A. Ceconi, epidemiologist, and Stephen L. Maloney, Department Secretary; Dr. Timothy Leary, Dr. F. P. Denney and Dr. Harry Linenthal, representing the Norfolk District Medical Society; Dr. Robert B. Osgood, Dr. Martin J. English and Dr. George C. Shattuck, representing the Suffolk District Medical Society; Dr. William H. Watters and Dr. Wesley T. Lee, representing the Massachusetts Homoeopathic Hospital. Dr. Henry M. Pollack of the Massachusetts Homoeopathic Hospital was out of town and unable to attend the meeting.

The Board was organized with the choice of Dr. F. X. Mahoney as chairman and Stephen L. Maloney as secretary.

The meeting of the Board was opened by Chairman Mahoney with words of welcome. He stated that the Advisory Board was

officially appointed by His Honor James M. Curley to advise and co-operate with the Health Commissioner on request and in cases of emergency in medical matters, particularly in preventive medicine.

Dr. Mahoney prefaced the discussion by a request that the Medical Board bring to their respective societies the desire that all physicians co-operate with the Health Department in the prevention of disease.

He stated that he had confidence in the physicians in the city and their ability to intelligently diagnose and combat any unusual outbreak of communicable disease.

Dr. John A. Ceconi, epidemiologist in the Health Department, explained in detail the methods used in the Schick and toxin-antitoxin method for the control of diphtheria.

The Board then took up the advisability of indorsing the inauguration by the Health Department of this Schick and toxin-antitoxin method for the control of diphtheria, and after a lengthy discussion went on record as unanimously favoring the promotion of the tests in the City of Boston. It was agreed that the physicians in the city should be informed in detail, by means of descriptive and illustrative circulars and instructions, as to the administration, reaction and efficacy of the test, especially in view of the successful results that have been shown in several of the large cities where the work is being carried on, particularly in New York City, where Dr. Zingher, alone, has already tested more than 160,000 children.

It was decided that clinics for demonstration of the application of this test and treatment will be conducted under the auspices of the Health Department, at which physicians will be allowed to participate. It was the sense of opinion of the members of the Board that physicians in charge of baby clinics and at hospitals should take especial interest in this work, and that parents of children of pre-school age should be encouraged and urged by pediatricians to have the babies tested.

TUBERCULOSIS CAMP FOR CHILDREN.

The Boston Tuberculosis Association opened its Prendergast Preventorium for Children at Mattapan, on Wednesday, May 10, 1922. The first group consisted of twenty-seven girls from seven to thirteen years of age, and were sent from the Out-patient Department of the Boston Sanatorium, but selections will be made from other institutions in Boston later.

Extensive remodeling of the old camp dormitory converted it into one large ward for the children. There is a playground for the children and a playhouse which can be used in rainy weather was kindly loaned by the Election Department of the City of Boston. Adjoining the dormitory are the administration offices.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING MAY, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	8	15.69
7 days or less.....	6	11.76
8 to 14 days, inclusive.....	2	3.92
15 to 21 days, inclusive.....		
22 to 31 days, inclusive.....		
WITHIN FIRST MONTH.....	16	31.37
Within second month.....	6	11.76
Within third month.....	1	1.96
Within fourth month.....	1	1.96
Within fifth month.....	2	3.92
Within sixth month.....	3	5.88
Within seventh month.....		
Within eighth month.....		
Within ninth month.....		
Within tenth month.....		
Within eleventh month.....	1	1.96
Within twelfth month.....		
WITHIN FIRST YEAR PRECEDING DEATH.....	30	58.81
Within second year.....	10	19.61
Within third year.....	5	9.80
More than three years.....	6	11.76
Total.....	51	99.98

DEATHS AND DEATH RATES FOR CERTAIN CITIES, MAY, 1922.

CITY.	Popula- tion Esti- mated July 1, 1922.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		May 6.	May 13.	May 20.	May 27.	May 6.	May 13.	May 20.	May 27.
Boston.....	764,017	236	205	198	173	16.1	14.0	13.5	11.8
Bridgeport, Conn.....	143,555	35	24	33	36	12.7	8.7	12.0	13.1
Cambridge.....	110,944	27	22	22	19	12.7	10.3	10.3	8.9
Fall River.....	120,790	43	30	26	28	18.6	13.0	11.2	12.1
Lowell.....	114,423	35	32	27	35	16.0	14.6	12.3	16.0
New Bedford.....	127,542	38	33	20	20	15.5	13.5	8.2	8.2
Providence, R. I.....	241,011	63	58	54	59	13.6	12.5	11.7	12.8
Springfield.....	140,052	32	32	20	19	11.9	11.9	7.4	7.1
Worcester.....	188,449	49	62	45	53	13.6	17.2	12.5	14.7

SUMMARY OF THE WORK, MAY, 1922.

BUREAU OF ADMINISTRATION.

	May. April.			May. April.	
Conferences	2	2	Poultry slaughtering establishments approved,	1	0
Hearings	3	2	Special drafts	1	0
Prosecutions ordered	12	6	Personnel:		
Orders	6	5	Appointments	7	13
Forcible removals	0	1	Appointments terminated	0	2
Dump applications disapproved	1	3	Appointments made permanent	1	1
Lying-in hospitals approved	1	3	Leaves of absence granted	1	0
Cemetery applications approved	1	0	Salaries increased	31	0
			Promotions	2	0

LICENSES, PERMITS, ETC., ISSUED.

	May. April.			May. April.	
Burial permits	995	1,204	Stable permit granted conditionally	0	1
Disinterment permits	24	25	Denatured alcohol licenses	139	1
Milk licenses	1,851	1,424	Manicure-massage:		
Pedler's licenses, general, ...	228	211	Granted	577	19
Hen licenses granted	99	730	Beverage establishment licensed	13	3
Dump licenses issued	7	10	Grease	12	45
Sundry	0	2	Manure	1	3
Goat permits	0	4			
Undertaker licenses issued	163	151			
Stable permit granted	0	1			

*MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	May. April.			May. April.	
Visits by medical inspectors	2,852	1,933	Vaccination certificates	158	6
Deaths investigated	10	15	Cases brought to Boston for treatment	45	72
Vaccination	701	9	Antitoxin administered	0	13

NURSING SERVICE.

	May. April.	
Communicable disease visits	3,403	4,458
Babies visited, first visit	771	301
Revisits	1,489	1914

HEALTH UNIT (Blossom Street).

	May. April.	
Health Department proper:		
Vaccinations	855	6
Vaccination certificates issued	198	13
Cases visited by nurses:		
Communicable diseases	250	*
Complaints made of insanitary conditions	25	5

* Figures not available.

	May.	April.		May.	April.
Baby Hygiene Association:			Conferences:		
Babies cared for . . .	335	316	Number . . .	8	8
Babies newly admitted,	27	26	Total attendance . .	356	342
			Home visits by nurses,	484	426
				May.	April.
Boston Dispensary:					
Calls by district physician from Boston Dispensary . . .				66	33
Consumptives' Hospital Department:					
Calls by nurses in districts				1,045	958
Instructive District Nursing Association:					
Visits by nurses				2,188	2,003
Jewish Welfare Center:					
Conferences held				4	3
Number of children attending conferences				144	130
Visitors:					
City				12	15
Out of city				0	1
General:					
Number of persons applying for information				194	65

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	May.	April.
New reports	1,769	1,597
Stores inspected	2,748	2,344
Sanitary defects remedied	270	233
Complaints at office	67	58
Referred to Sanitary Division	70	45
Milk applications approved	183	110
Street stands inspected	28	10
Peddlers:		
Applications for licenses approved	240	201
Vehicles inspected and approved	70	688
Court cases	23	9
Fines	\$105	\$365

CONDEMNATIONS.

REQUESTED.

Cheese	903 pounds
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WITHOUT REQUEST.

Apples	1 bushel	Dates	20 pounds
Beef	399 pounds	Figs	8,000 pounds
Brown sugar	600 pounds	Figs	10 boxes
Candy	2,500 pounds	Fowl	8 pounds
Canned goods	500 cans	Geese	100 pounds
Chicken	282 pounds	Frankfurts	200 pounds
Chocolate	2 quarts	Haddock	38 pounds
Cocoa	24 pounds	Hamburger	6 pounds
Clams	1 peck	Herring	50 pounds
Confectionery	10,575 pounds	Ice cream cones	90 pounds
Corned shoulder	6 pounds	Liver	3 pounds
Corned beef	174½ pounds	Macaroni	200 pounds
Currants	1,500 pounds	Mackerel.	20 pounds

Nuts	15 pounds	Salt pork	101 pounds
Olives	1,750 pounds	Scallops	2 pounds
Olives	4 boxes	Smelts	1 pound
Pork	25 pounds	Sugar	50 pounds
Plucks	9 pounds	Sousanni	120 pounds
Potatoes	20 pounds	Sweetbreads	12 pounds
Poultry	3 pounds	Tongue	6 pounds
Rabbits	100 pounds	Veal	697 pounds
Salt herring	750 pounds		

LIVE STOCK INSPECTION (Brighton Abattoir).

	May	April.		May	April.
Cattle inspected	137	24	Parts condemned	233	160
Calves inspected	1,857	2,388	Animals condemned	12	2
Swine inspected	5,110	4,097			

DAIRY DIVISION.

	May.	April.		May.	April.
Total inspections	897	742	With milk rooms	284	166
Dairies inspected	512	231	Without milk rooms	226	65
Scoring above 50 *	349	185	Inactive	140	218
Scoring below 50	173	46			

* Passable mark.

BUREAU OF MILK INSPECTION

	May.	April.		May.	April.
Chemical Inspection of:			Bacteriological examination of:		
Milk	1,421	1,312	Milk	756	650
Ice cream	20	2	Ice cream	165	153
Milk caps for bacteria	100	28	Court cases	47	21
Milk bottles	101	30	Fines	\$836	\$390
Miscellaneous	23	12			

SANITARY INSPECTION.

	May.	April.		May.	April.
Original inspections	1,530	1,462	Car reports	548	645
New reports	4,995	2,287	Complaints	1,391	917
Reinspections	5,960	5,332	Court cases	22	2
Legal notices served	491	490	Fines	\$5	\$100 20

BACTERIOLOGICAL LABORATORY.

	May.	April.
Examinations for diagnosis and release:		
Diphtheria	1,566	1,921
Tuberculosis	338	308
Typhoid	50	36
Gonorrhea	637	565
Gonorrheal ophthalmia	49	60
Syphilis	1,017	1,133
Other examinations	* 21	* 20
Bacteriological examinations of milk	708	717
Bacteriological examinations of ice cream	162	152
Examination of rats	877	917

* Urine for typhoid, 1; feces for typhoid, 1; spinach for botulinus, 1; paratyphoids, 4; pork for tuberculosis and sarcoma, 1; shrimp for B. Coli, 1; spinal fluid for diplococci, 1; smear for dark field examination, 1; pus from abscess, 1; genito-urinary T. B., 2; malaria, 5; smear for Vincent's, 1; paratyphoids, 2; smear for virulence, 8; beef for B coli, 2; chicken for poison, 1; breast milk for T. B., 1; spinal fluid for T. B., 1; water for B. coli, 1; shrimp for B. coli, 1; hamburg for poison, 1; clam chowder for poison, 1; smear for anthrax, 1.

VITAL STATISTICS, MAY, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MAY, 1922,
WITH COMPARATIVE FIGURES FOR MAY, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	861	862	—1	13.52	13.65	— .13
Nonresidents deducted.....	718	705	+13	11.28	11.16	+ .12
BY AGE:						
Under one year.....	91	134	—43	1.43	2.12	— .69
One year to four years, inclusive.....	45	56	—11	.71	.88	— .17
Sixty years and over.....	310	280	+30	4.87	4.43	+ .44
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	36	53	—17	.56	.83	— .27
Arterio-sclerosis.....	39	42	—3	.61	.66	— .05
Heart disease.....	138	117	+21	2.17	1.85	+ .32
Nephritis, chronic.....	52	40	+12	.82	.63	+ .19
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,558	1,603	—45	24.47	25.38	— .91
b. Registered stillbirths.....	47	52	—5	.74	.82	— .08
Stillbirths per 1,000 births and still- births.....				29.28	31.41	—2.13
c. Deaths of mothers from causes incident to childbirth.....	14	17	—3	.22	.26	— .04
Deaths of mothers per 1,000 births and stillbirths.....				8.72	10.27	—1.55
d. Deaths of children in first year of life...	91	134	—43	1.43	2.12	— .69
Deaths in first year per 1,000 live births, ...				58.41	83.59	—25.18
VIOLENCE:						
Accidents.....	43	41	+2	.67	.65	+ .02
Homicides.....	4	2	+2	.06	.03	+ .03
Suicides.....	10	4	+6	.16	.06	+ .10
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	6	6	—	.09	.09	—
Broncho-pneumonia.....	51	38	+13	.88	.60	+ .20
Cancer.....	101	84	+17	1.59	1.33	+ .26
Cirrhosis of the liver.....	2	7	—5	.03	.11	— .08
Diabetes mellitus.....	14	14	—	.22	.22	—
Diarrhoeal diseases, children under two years of age.....	6	13	—7	.09	.20	— .11

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

		CASES AND DEATHS.					
		ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
		1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:							
Anterior poliomyelitis.....	Cases...	—	1	—1	—	.01	—01
	Deaths..	—	—	—	—	—	—
Cerebro-spinal meningitis.....	Cases...	3	7	4	.04	.11	—07
	Deaths..	2	2	—	.03	.03	—
Diphtheria.....	Cases...	241	286	—45	3.78	4.52	.74
	Deaths..	10	19	—9	.16	.30	—14
Influenza.....	Cases...	8	8	—	.12	.12	—
	Deaths..	4	3	+1	.06	.04	+02
Measles.....	Cases...	916	436	+480	14.38	6.90	+7.48
	Deaths..	3	3	—	.04	.04	—
Pneumonia (lobar).....	Cases...	117	193	+14	1.84	1.63	+21
	Deaths..	57	38	+19	.89	.60	+29
Scarlet fever.....	Cases...	191	185	+6	3.00	2.93	+07
	Deaths..	5	5	—	.08	.08	—
Tuberculosis (pulmonary).....	Cases...	179	205	—26	2.81	3.24	—43
	Deaths..	62	64	—2	.97	1.01	—04
Tuberculosis (other forms).....	Cases...	56	35	+21	.88	.55	+33
	Deaths..	11	12	—1	.17	.19	—02
Typhoid fever.....	Cases...	4	12	—8	.06	.19	—13
	Deaths..	—	3	—3	—	.04	—04
Whooping cough.....	Cases...	55	69	—14	.86	1.07	—21
	Deaths..	1	3	—2	.01	.04	—03

CANCER DEATHS ON THE INCREASE.

Deaths from cancer (all types) in Boston, Mass., years 1916 to 1921, inclusive, and first five months of year 1922:

YEAR.	Total Deaths.	YEAR.	Total Deaths.
1916.....	868	1920.....	968
1917.....	917	1921.....	1,056
1918.....	954	1922, first 5 months.....	* 494
1919.....	905		

* If deaths from cancer continue at their present rate, the total deaths for the year would be approximately 1,188, a further increase over the year 1921.

The adult should seriously consider his heart condition, which brings us back to the necessity of a complete physical examination at least once a year.

155



MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, JUNE, 1922.

No. 6

REGULATION ON "ROT" AND "SPOT" EGGS UPHELD BY SUPREME COURT.

For about four years a case has been pending before the courts, and this month a decision was rendered by the Supreme Court, upholding a regulation of the Health Commissioner on the handling of "rot" and "spot" eggs. The regulation requires that these eggs, which are solely for use for mechanical purposes, should be denatured with a carbolic solution or its equivalent, and kept in a metal container. One large firm held that the commissioner had no authority to make such a broad regulation and refused to comply. Following the ruling of the Supreme Court, the original fine of \$50 in the lower court stands. The full text of the decision of the court is as follows:

Boston, February 21, 1918.

REGULATION CONCERNING THE DENATURING OF "ROT" AND "SPOT" EGGS.

It was ordered by the Health Commissioner that the regulation of September 6, 1917, concerning the denaturing of "rot" and "spot" eggs, be amended by striking out the words "in a manner satisfactory to the Health Commissioner or his agents," so as to read as follows:

"It is hereby ordered by the Health Commissioner that in all establishments where eggs are handled for food or mechanical purposes all 'rot' and 'spot' eggs shall be immediately placed in a water-tight metal container, provided with cover, containing a solution of carbolic acid of a strength of at least 5 per cent; or a denaturant of an equivalent strength, and therein denatured by mixing them thoroughly.

"All said containers so used shall be plainly and conspicuously marked: 'EGGS FOR MECHANICAL PURPOSES ONLY: NOT FOR FOOD,' in letters of uncondensed gothic type, not less than one inch in height."

F. X. MAHONEY, M. D.,
Health Commissioner.

Suffolk.

May 19, 1922.

Criminal — Validity of Health Regulations Requiring Metal Container for
"Rot" or "Spot" Eggs Upheld.

BRALEY, J. The order or regulation of the health commissioner of the city of Boston, "that in all establishments where eggs are handled for food or mechanical purposes all 'rot' and 'spot' eggs shall be immediately placed in a water tight metal container, provided with cover containing a solution of carbolic acid of a strength of at least 5 per cent or a denaturant of an equivalent strength and therein denatured by mixing them thoroughly," having been promulgated, the questions are, whether it is lawful, and if so whether there was any evidence for the jury of its violation by the defendant. It is settled by the recent case of *Wheeler v. Boston*, 233 Mass. 275, that R. L. c. 75, s. 65, now G. L. c. 111, s. 122, conferred authority upon the board of health to pass such an order for the preservation of the public health. But by force of the revised ordinances of the city the health department is under the charge and control of a health commissioner who performs the duties, and exercises all the authority of the board of health. This authority is not curtailed by St. 1914, c. 627, which contains no express or implied repeal of R. L. c. 75, s. 65. The order therefore was regularly issued. It is urged, however, that the defendant was compelled to break the eggs before selling them for manufacturing purposes, and it offered evidence and made offers of proof tending to show that the regulation destroyed a well known commercial product, and deprived the defendant of its property without due process of law. The evidence and offers of proof were excluded rightly. It was undisputed that the eggs in question "were decomposed spot and black rot eggs unfit for food, and no denaturant had been applied," and one Wilson the president, told the police officer who investigated the company's methods of business, that he did not intend to denature the rotten eggs, or to comply with the regulations. The defendant company "were commission merchants dealing in butter, eggs and poultry for food," and also dealt in eggs in all stages of decay. No discussion is required to point out that eggs constantly decomposing even though stored and opened in a small adjoining room could be found to be a constant menace to the wholesomeness of the butter, eggs and poultry kept and sold for food. A regulative measure may require precautions to avoid possible danger, as well as to restrict conditions actually harmful. *Train v. Boston Disinfecting Co.* 144 Mass. 523. It is also no defence that other dealers instead of breaking their own eggs sell them in the shell "to breakers who take them to breaking establishments." *Com. v. New York Central & Hudson River Railroad*, 202 Mass. 304. It was optional with the defendant whether it would deal in rotten eggs which must be broken in connection with other food products which it stored and sold. If it decided to adopt this course of business then it must comply with the regulation which has no reference whatever to wholesome and merchantable eggs. The opening and retention of such eggs undenatured for any purpose could also be found detrimental to the public welfare, even if in their condition of rottenness they could be sold to tanners for use in softening certain kinds of leather. The regulation goes no further in limiting the use of property in the interest of the health of the community, nor does it exceed in restrictive scope, regulations and statutes which have been sustained as not having been in excess of the necessities of the case as viewed by the Legislature, or the constituted authorities to whom its powers of regulation have been delegated. *Com. v. Plaisted*, 148 Mass. 375; *Com. v. Interstate Consolidated Street Railway*, 187 Mass. 436; *Com. v. Sisson*, 189

Mass. 247; *Chase v. Proprietors of Revere House*, 232 Mass. 88, and cases cited; *Wheeler v. Boston*, 233 Mass. 275. The regulation also is not in conflict with the Federal Constitution. The property of the defendant is neither taken nor destroyed, and there is no discrimination in favor of one dealer from another dealer engaged in the same business. *Barbier v. Connolly*, 113 U. S. 27; *Mugler v. Kansas*, 123 U. S. 623; *Murphy v. People of California*, 225 U. S. 623. A verdict for the defendant could not have been ordered, and the other rulings requested were properly denied for reasons sufficiently stated. In accordance with the terms of the report the verdict is to stand.

So ordered.

DANIEL M. LYONS,
Asst. Dist. Atty for Com.

JOHN F. CUSICK,
for defendant.

PURE ICE CREAM.

The sanitary manufacture, transportation and storage of ice cream is nowadays a legal as well as moral requirement for all ice cream makers and dealers. The question of degree of purity over and above a certain standard is still a matter for the different concerns to determine for themselves as they are influenced by the keen competition in the business, but the law compels all to maintain their factories, conveyors and receptacles in a sanitary condition. Sanitary condition means clean and free from any contaminating substances.

The Boston Health Department, through the bacteriological and chemical analysis of samples of ice cream taken daily from all parts of the city, and through the efforts of its especially trained food inspectors, compels the enforcement of the provisions of the law to the end that the manufacture and sale of ice cream is properly safeguarded and the possibility of disease from an impure product eliminated.

To keep an ice cream establishment sanitary, provisions must be made for a plentiful supply of boiling water. With this comes the necessary accompaniments of soap, soap powder, sal soda, and brushes for inaccessible corners. Then again, it is one thing to supply these essentials in the beginning, but it is quite another to care for them day in and day out, in order that they may be found always ready for immediate and efficient use. To achieve this it is most important that a certain definite place be assigned for them when not in use.

Many ice cream establishments are particularly well conducted with respect to sanitary methods. On the other hand, there are some that are offenders in many ways. Still others, while careful on the whole, are careless in spots.

A certain obligation to the public falls upon the ice cream

manufacturer concerning the transportation and distribution of the product after it leaves the factory. Wagons should be made tight so that the brine may be restrained from dripping into the street. Careless employees have been observed to drain the brine from chests and then throw it into the street instead of into a waste drain.

No fresh ice cream, when delivered to the retail stores, should be dumped into a container which already has old ice cream on the bottom. Containers should be clean and have no anchor ice on the sides. It requires some discernment to take proper care of ice cream chests, because when they are full of ice, or even partly full, the cleaning process is neither easily possible nor practicable. To take out all the ice is a tedious process, and there is a consequent waste of ice. Another element to be considered is the fact that when the ice cream cabinet is taken out and aired it becomes warmed, and it will then take a few hours to chill it again thoroughly in order that it may properly keep the ice cream. From this it may be inferred that it is fairly impossible from a practical standpoint to fix a certain day for cleaning out the cabinet. Nevertheless, the cabinets must be properly cared for, or the drains will get clogged, while a slimy deposit with pathologic possibilities will form. From this condition odors will arise and the fresh ice will be contaminated by contact with unclean surfaces or impure air.

It is necessary for anyone who has the responsibility for the sanitary care of ice cream to keep a watchful eye upon all ice chambers and cabinets, or special ice cream refrigerators. Plans should be made for a thorough cleansing when the ice supply is low. After all the ice is removed, any mud in the bottom should be cleaned out, and then the surface should be washed out in lukewarm water. A second washing with a strong solution of soap powder is the next step. If the proper conveniences for these proceedings are not available at the retailers, then the manufacturer should install a clean chest from the factory, removing the old chest for a careful renovation at least once in every three months.

It need scarcely be remarked that the rules of sanitation, carefully followed, will meet with a reward from the economic standpoint. Sanitation has become one of the keenest points in business competition, and it is therefore necessary from a business standpoint. The greater the care and regard for cleanliness, the less is the chance of carrying and spreading disease; hence it is a necessity from the standpoint of public health.

A great percentage of ice cream is consumed by children, and too much care cannot be exercised in guarding their health. From the foregoing it may be seen that sanitary handling of ice cream is a vital factor to business, to public health, and to our future citizens.

NOTES ON THE BIRTH RATES PER 1,000 POPULATION IN THE DIFFERENT WARDS IN THE CITY OF BOSTON FOR THE FIVE YEARS, 1917 TO 1921.

1. Ward 2 in East Boston has had the highest birth rate more consistently than any other ward, although it is followed very closely by Ward 5, North and West End.

2. Lowest birth rate continuously year after year is shared pretty equally by Wards 7 and 8, the Back Bay.

3. No ward in the city has had a continuously increasing rate. Ward 18, containing the Meeting House Hill and Fields Corner districts in Dorchester, has gone steadily downward in the last five years.

4. Wards showing a tendency toward an increasing birth rate in the five-year period are 3, 4, 6, 12, 13, 14, 15, 22 and 24. Wards showing a tendency toward a decreasing birth rate are 1, 7, 8, 10, 16, 18, 19, 20, 21, 23, 25 and 26. Wards wherein the yearly decreases and increases tend to balance one another are 2, 5, 9, 11 and 17.

5. The birth rate for the entire City of Boston, nonresident births included, is likewise balanced and shows neither an upward or downward trend. The number of nonresident births yearly in Boston averages nearly 2,100.

6. In 1918 Wards 21, 23, 24, 25 and 26 suffered exceptional drops in their birth rate, and while there has been a slight reaction they have never attained their former levels, which were previously always above the city average.

7. Wards that are generally above the average for the entire city are 1, 2, 5, 9, 11, 12 and 24. Wards that are generally on par with the rate for the entire city are 3, 4, 6, 10, 13, 14, 15, 17, 18, 20, 21 and 22. Wards that are generally below the average for the entire city are 7, 8, 16, 19, 23, 25 and 26.

8. From 1918 to 1919 births decreased in all wards but 2, 3, 4, 5, 9, 12, 13, 14 and 15.

9. The lowest rate recorded for any ward occurred in Ward 8 in 1921, where the birth rate was 10.80 per 1,000 population. The highest rate recorded occurred in Ward 5 in 1919, when the rate for the ward was 34.17 per 1,000 population.

More Breathing Spaces.—The plan of his Honor the Mayor to provide more breathing spaces in the congested sections of the city is an idea that is deserving of commendation. The results are two-fold when we consider that areas to be used for this purpose are now occupied by old, insanitary and uninhabitable buildings, that can be razed at but little expense to the community.

STATISTICAL SUMMARIES: GENERAL DEATH RATE AND INFANT RATE IN MASSACHUSETTS CITIES AND TOWNS.

(From report of American Child Hygiene Association.)

Rank by Population of United States Cities.	NAME OF CITY.	Population, 1920 Census.	Per Cent Gain Since 1910.	DEATH RATE, ALL AGES.		INFANT MORTALITY RATE,							
				1920.	1921.	AVERAGE.		1917.	1918.	1919.	1920.	1921.	
						1911-15.	1916-20.						
319	Arlington.....	18,665	66.8	14.0	12.9		67	61	78	81	67	63	
305	Attleboro.....	19,731	21.7	14.4	13.7		82	84	84	81	67	59	
265	Beverly.....	22,561	21.0	12.5	10.4		68	94	70	48	54	39	
7	Boston.....	748,060	9.0	15.4	13.5	111	103	99	115	97	101	77	
544	Braintree*.....	10,580	31.2	13.4	15.2						81	66	
97	Brookton.....	66,254	16.5	11.5	10.1	91	80	67	95	77	71	64	
169	Brookline.....	37,748	35.8	10.1	10.2	63	58	65	61	53	66	41	
146	Chelsea.....	43,184	33.1	12.9	12.7		73	80	77	65	63	54	
447	Clinton.....	12,979	-0.7	14.9	13.3		114	134	118	84	116	95	
507	Danvers*†.....	11,108	18.1	25.3	25.9						65	79	
501	Easthampton*.....	11,261	32.1	11.6	12.9						91	101	
52	Fall River.....	120,485	1.0	14.7	14.2	160	152	159	180	119	129	113	
345	Gardner.....	16,971	15.5	13.6	13.4		99	103	114	89	102	86	
376	Greenfield.....	15,462	48.3	12.7	11.1		87	77	125	73	87	51	
119	Haverhill.....	53,884	22.1	13.4	12.0		88	95	78	86	92	75	
107	Holyoke†.....	60,203	4.3	14.3	12.3		155	195	145	120	117	92	
304	Leominster.....	19,744	12.3	9.8	11.8		72	51	88	86	69	54	
59	Lowell.....	112,759	6.1	15.7	12.9		141	140	159	124	135	95	
65	Lynn.....	99,148	11.0	12.8	11.1		80	80	83	66	82	73	
392	Marlborough.....	15,028	3.1	12.0	12.3		72	66	90	67	69	69	
327	Medford.....	18,204	15.8	12.7	11.1	59	64	63	77	57	56	45	
51	New Bedford.....	121,217	25.4	14.2	11.0	147	142	135	193	122	122	96	
369	Newburyport.....	15,618	4.5	17.7	14.4		85	49	103	74	85	62	
137	Newton.....	46,054	15.7	12.2	9.9	76	71	90	72	69	64	51	
268	North Adams.....	22,282	1.2	13.5	12.1	96	84	82	114	88	70	72	
276	Northampton†.....	21,951	13.0	20.4	18.7	101	85	88	101	64	86	60	
562	Northbridge*.....	10,174	15.5	10.8	10.2						99	68	
150	Pittsfield.....	41,763	30.0	13.8	12.9	100	74	102	82	64	65	68	
443	Plymouth.....	13,045	7.4	16.6	17.1		113	122	137	64	147	101	
149	Salem.....	42,529	-2.7	14.9	13.9	112	92	87	118	69	85	74	
529	Saugus*.....	10,874	35.1	8.7	13.4						83	92	
70	Somerville.....	93,091	20.5	12.0	10.2		74	68	96	61	80	77	
411	Southbridge.....	14,245	13.1	8.7	12.1		81	107	78	71	58	53	
50	Springfield.....	129,614	45.8	13.0	11.3	98	92	91	107	84	85	69	
286	Watertown.....	21,457	66.7	7.8	7.8		75	78	78	77	73	55	
436	Webster.....	13,258	15.2	9.3	11.9		85	96	103	72	56	61	
549	Winchester*.....	10,485	12.6	13.4	12.1						64	41	
378	Winthrop.....	15,455	52.5	9.4	8.9		61	75	48	64	40	52	
352	Woburn.....	16,574	8.3	12.3	10.7		82	79	99	73	78	63	
35	Worcester†.....	179,754	23.1	14.7	12.9		94	95	97	92	85	76	

(Figures in heavy type from official Census Bureau reports; those in light type from official or personal reports from state or local authorities.)

* Places first listed as over 10,000 population in 1920 Census. Early statistics often unobtainable.

† Important state institutions located here, influencing crude death rate.

‡ Large institutions for infants, often drawing from all parts of state, located here, and materially affecting infant mortality rate.

Cities with Lowest and Highest Death Rates of Children under One Year of Age, per Thousand Live Births, for the Year 1921.

POPULATION OVER 250,000.

<i>Lowest.</i>		<i>Highest.</i>	
Portland, Ore	48	Pittsburgh, Penn. . . .	96
San Francisco, Cal	51	Kansas City, Mo. . . .	94
Seattle, Wash	52	Buffalo, N. Y. . . .	93

POPULATION OVER 100,000 TO 250,000.

<i>Lowest.</i>		<i>Highest.</i>	
Oakland, Cal.	52	Memphis, Tenn.	118
St. Paul, Minn.	54	Fall River, Mass.	113
Spokane, Wash.	55	Seranton, Penn.	104

POPULATION 50,000 TO 100,000.

Long Beach, Cal.	54	Charleston, S. C.	158
Rockford, Ill.	54	Savannah, Ga.	140
Covington, Ky.	57	Knoxville, Tenn.	109

POPULATION 25,000 TO 50,000.

Pasadena, Cal.	31	Petersburg, Va.	153
Brookline, Mass.	41	Columbia, S. C.	144
Moline, Ill.	45	Pueblo, Colo.	130

POPULATION 10,000 TO 25,000.

East Hartford, Conn.	24	Dunsmore, Penn.	186
Santa Cruz, Cal.	33	Lincoln, Ill.	166
Tonawanda, N. Y.	37	Kewanee, Ill.	164

ICE DISTRIBUTING AT COST IN BOSTON.

Mr. G. H. Voter, secretary of the Massachusetts Ice Dealers' Association, 201 Devonshire street, each year gives without charge his time during the summer months to contribute toward the relief of the poor in certain districts in the city. This is done by assigning different ice companies to deliver ice at certain approved "stations," from which ice may be purchased at 25 cents per 100 weight, on the cash and carry plan. There is no revenue from this — there being usually a deficit. The plan is under the charge this year directly of the Mayor's office. The five station locations below are approved by the Street Commissioners:

Corner of Brighton and Poplar streets, West End.

East Boston: Day square; Gove street, between Orleans street and railroad tracks.

South Boston: Thomas F. McDonald square.

City proper: North square.

Mr. Voter makes this offer annually. It is a semi-charitable proposition in view of the fact that while the ice is not given free it is given at so much lower rates than through ordinary sale that the cost of purchase is almost nothing in comparison. The only disadvantage is that purchasers must pay cash, and carry the ice home themselves.

Ice in the dairy saves losses from sour milk and cream, trouble from high bacteria counts, and inferior low-priced butter and cheese.

1921 VITAL STATISTICS FOR BOSTON AND OTHER UNITED STATES CITIES. (Figures furnished by Health Department of (city named).)

City.	Estimated Population.	Total Live Births.	Birth Rate.	Total Deaths (All Causes).	Death Rate (All Causes).	Total Deaths, Children Under 1 Year.	Infant Mortality Rates.	Total Stillbirths.	Rate per 1,000 Live Births and Stillbirths Together.	Deaths of Mothers from Causes Incident to Pregnancy and Childbirth.	Death Rate of Mothers per 1,000 Live Births and Stillbirths.	Total Nonresident Deaths.	Percentage of Nonresident Deaths to Total Deaths.
Boston.....	757,634	19,397	25.60	10,220	13.49	1,499	77.28	639	26.44	149	7.44	1,815	17.766
New York City.....	5,751,859	134,241	23.34	64,257	11.17	9,548	71.0	6,297	24.43	746	5.31	2,036	3.16
Chicago.....	2,780,655	20,333	20.33	23,819	11.08	5,051	89.33	2,534	21.27	349	5.86	1,113	3.61
Philadelphia.....	1,866,212	43,434	23.3	23,704	12.7	3,381	77.8	2,100	21.4	318	7.0	575	2.42
St. Louis, Mo.....	786,164	27,582	29.3	10,395	11.0	2,313	84.0	1,375	30.7	197	6.8	618	5.91
Los Angeles.....	15,182	19,333	19.3	9,442	12.0	937	61.7	868	20.4	94	5.85	798	8.45
Pittsburgh.....	615,000	12,655	20.58	8,501	13.81	836	66.14	445	21.30	84	6.49	+	+
San Francisco.....	602,432	16,193	26.8	8,497	14.0	1,517	93.6	622	27.91	124	7.37	1,231	14.49
St. Paul, Minn.....	520,000	31,167	17.62	7,026	13.51	432	47.12	306	18.21	56	5.91	969	13.79
San Antonio, Tex.....	465,000	10,893	23.5	4,568	9.6	872	83.2	346	21.0	44	3.9	268	5.86
Washington, D. C.....	454,026	9,028	19.9	6,037	13.3	751	80.40	501	24.0	78	8.2	+	+
New Orleans.....	409,000	10,086	25.21	6,408	16.17	811	80.40	497	26.45	104	9.82	880	13.60
Minneapolis.....	382,815	9,436	24.0	4,291	10.9	528	55.0	344	24.80	71	7.25	743	17.31
Kansas City, Mo.....	336,157	6,670	19.84	4,629	13.7	632	94.7	241	20.5	52	4.9	235	6.68
Rochester, N. Y.....	305,000	6,829	22.39	3,517	11.53	546	79.27	246	23.10	35	8.08	+	+
Denver.....	255,493	5,419	19.8	3,016	11.46	389	70.27	216	20.72	43	10.4	+	+
Toledo, Ohio.....	253,696	5,419	21.36	3,016	12.00	406	74.9	254	22.36	59	8.31	394	12.37
Providence, R. I.....	239,000	6,558	27.56	3,185	13.33	555	84.0	272	39.66	57	8.31	+	+
Louisville, Ky.....	234,891	4,773	20.3	3,226	14.0	363	76.1	239	21.33	116	8.19	+	+
Birmingham.....	186,133	4,518	24.27	2,724	14.63	432	93.6	239	21.33	57	8.31	362	13.28
Richmond.....	175,686	4,381	24.94	2,565	14.60	436	100.0	331	29.5	48	10.3	248	9.66
Bridgeport.....	145,693	4,116	28.2	1,503	10.3	271	65.8	161	35.3	24	5.61	97	4.45
Hartford.....	144,088	3,951	27.42	1,828	12.68	300	75.7	188	28.35	15	3.6	432	23.63
Springfield.....	135,877	3,657	26.91	1,541	11.34	244	66.42	148	28.0	24	6.30	270	17.52
Fall River.....	135,969	3,747	29.91	1,714	13.61	424	113.0	135	34.77	19	4.89	+	+
New Bedford.....	125,012	3,681	29.58	1,380	11.38	346	90.99	185	30.92	11	2.84	+	+
Cowell.....	112,759	3,161	28.03	1,469	13.02	286	90.5	140	29.02	13	3.94	69	4.69
Wilmington.....	110,000	2,701	24.55	1,362	12.38	252	93.29	134	25.77	38	13.40	124	9.10
Somerville.....	95,000	1,757	18.49	986	10.38	135	76.0	67	19.2	2	1.09	+	+

* White, 13.74; negro, 22.57.

† Figures unavailable.

‡ Puerperal septicaemia.

NOTES ON THE INFANT MORTALITY RATES IN THE DIFFERENT WARDS IN THE CITY OF BOSTON FOR THE FIVE YEARS, 1917 TO 1921.

1. Infant mortality curves generally follow birth curves, being high as the number of births is high, and low as the births are low.

2. Wards showing the highest infant mortality rate are 17 and 20.

3. Wards showing the lowest infant mortality rate are 19 and 8.

4. Wards that are generally below the rate for the entire city throughout the five-year period are 8, 15, 16, 17, 19, 21, 22, 23, 25, 26.

5. Highest rate recorded in the five-year period occurred in Ward 17 in 1920, reaching 164.81. The reason for this extremely high rate is found in the fact that Ward 17 has within its boundaries an infant asylum caring for a large number of illegitimate children, among whom the infant mortality rate is everywhere high because of the absence of proper pre-natal care, etc.

6. The lowest rate recorded, 42.37, occurred in Ward 19 in 1918, which is all the more remarkable because 1918 was an epidemic year and all other wards in the city except 8, 15 and 23 climbed disproportionately high in that year.

7. Wards 3, 9, 11, 16, 20, 22, 24 and 25 were hit the hardest by the epidemic of influenza in 1918.

8. No ward shows a consistently rising rate. Ward 8 exhibits a consistently falling rate for the five years, 18 for the last three years.

9. "In and Out" wards, that is, wards with a high rate one year and low rate the following year, then a high rate, and so on, are 1, 2, 3, 4, 11, 12, 15, 16, 17, 20, 21, 22, 24, 25. The rate for the entire city follows this procedure, up in 1918, down in 1919, up in 1920 and down in 1921.

10. Ward 5, besides showing a fine downward tendency, is also the most regular curve of all the wards.

11. All wards in the city contributed lower rates in 1921 except 6, 14, 15 and 26. Ward 4 did not change. The infant mortality rates in all other wards decreased remarkably.

UNITED STATES LEPROSARIUM FILLED.

The statement reported in the newspapers emanating from the United States Public Health Service to the effect that there are 1,200 lepers in this country not hospitalized is, we presume, an estimate rather than an actuality, and refers to the City of Boston only to the extent that there are no facilities maintained by the federal or state government for taking care of lepers,—this department maintains its Detention Hospital for such cases,—and that there are

no known cases of leprosy in Boston. The state maintained Penikese Island for the reception, care and treatment of all lepers found in the state until the National Leprosarium was started, and with the promise that the federal government was to care for its lepers, present and future, they were sent to the institution at Carville, La., a hospital which provides for but two hundred patients. Other states acted in the same manner, until the hospital at Carville was filled, and the situation today is that no more cases can be accommodated there, with the results that communities hesitate to apprehend lepers, having no place to hospitalize or detain them. Last year in this city a case was discovered and the Health Department cared for such case at the expense of the City of Boston, until the man died, in the meantime making many attempts to have the federal authorities take the case to Carville, but the refusal was based on the fact that there was no room for him there. This situation is likely to become intensified throughout the country, and something should soon be done to alleviate it, because many states, including Massachusetts, abandoned quarantine isolation places which they had maintained as soon as the government made provisions for the care of lepers.

This department hopes that Congress will act in accord with the recommendation of the Washington authorities to provide more accommodations at Carville or elsewhere, not only in sympathy and kindness to the afflicted and shunned but also as a protection to the well citizens of the community.

VITAMINS: THE ADVERTISED AND THE REAL.

Investigation of nutritional problems and the study of vitamins has given an opportunity to those who have no scruples about profiting through imposition and deception, which amounts to a practical duplication of the patent medicine business of former times. Manufacturers of a certain type have been quick to commercialize this proposition, and as a result there are on the market widely advertised products purporting to contain vitamins. The advertising methods and the claims set forth for these preparations recall the days when various "remedies" were being successfully exploited by means of printer's ink.

Judging by the success attending the marketing of these commodities, the public is as receptive to fraud as in former times and equally anxious to part with their money to those anxious to impose upon them. That individuals are willing to purchase at fancy prices a tablet, pill or other type of compound solely through advertised claims of merit, when wholesome vitamin-containing food

materials are available at moderate prices, indicates a continued willingness of humanity to be exploited to the financial benefit of others.

McCullum and Simmonds* tested six of these preparations for vitamin B and find that they do not contain this substance. In connection with this research these authorities assert that "the drug store is not the place to secure vitamins."

This article also includes practical suggestions relative to foods which should form a part of the daily diet of human beings, as follows:

Reduced to its simplest terms, the most important dietary reforms which we can introduce are:

1. Salads should be eaten twice each day. This will insure the regular consumption of some raw fruit, raw cabbage, raw celery, tomatoes, lettuce, etc., since these enter so frequently into the composition of salads. The consumption of such foods provides an abundance of the antiscorbutic substance in which our diet of cooked foods is likely to be lacking.

2. Each day a liberal helping should be taken of some food which we would class as pot-herbs or greens. This insures the regular consumption of some leafy vegetable. These, as has been pointed out, possess dietary properties which make them unique among the vegetable foods.† This practice will likewise go far toward correcting constipation, which is the bane of the existence of a large portion of our population.

3. Each day a quart of milk or its equivalent in the form of manufactured dairy products should be taken.

If one lives up to these rules, which will mean that the diet will be so planned as to include a sufficient amount of the protective foods, the remainder of the diet may be selected entirely on the basis of its appeal to the sense of taste. One may be assured that the food supply as a whole will be such as to promote health. When a diet such as this is adhered to there will be a great abundance of vitamins in each day's food supply.

FOOD POISONING.

Please post in a conspicuous place in your laboratory or office.

In the event of sickness of any nature, attributed to food, please notify by telephone at once

The Health Department, City of Boston, Telephone Congress
5100, daily 9 to 5. Sundays, holidays, etc., telephone
Main 6666.

Please be sure to save all specimens of pieces and vomitus from affected individuals, and as large portions as possible of *suspected foods*.

The material is to be used in connection with a special investigation which is now being carried on by the Boston Health Department.

* "The Potency of Commercial Vitamin Preparations." "Journal of American Medical Association," Vol. 78, No. 25, page 1953.

† McCollum, E. V.: "The Newer Knowledge of Nutrition." Ed. 2, New York. The Macmillan Company, 1922.

MORTALITY AND MORBIDITY REPORT, DISEASES DANGEROUS TO THE PUBLIC HEALTH, FOR BOSTON AND SURROUNDING CITIES AND TOWNS, FOR THE FOUR WEEKS ENDING SATUR- DAY, JUNE 22, 1922:

CITY OR TOWN.	Estimated Popula- tion.*	Total Deaths, All Causes.		Death Rate per 1,000.		Deaths Under 1 Year.		Deaths Under 5 Years.†		DIPHTHERIA.		SCARLET FEVER.		LOBAR PNEUMONIA.		PULMONARY AND LARYNGEAL TUBERCULOSIS.		MEASLES.		WHOOPIING COUGH.		TYPHOID FEVER.	
		Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.
Arlington.....	20,000	13	8.4	...	...	...	...	...	...	...	...	2	...	1	...	4	...	65	...	8	...	1	...
Belmont.....	11,546	14	15.7	1	2	...	...	...	...	...	...	6	...	...	...	1	...	6	...	5	...	...	...
Boston.....	767,017	725	12.2	85	120	4	180	4	119	21	40	66	179	4	698	1	50	1	8	...	...	...	...
Brookline.....	39,548	36	11.8	...	...	...	...	...	...	1	...	6	...	...	3	4	...	72	...	1	...	...	...
Cambridge.....	110,944	92	10.7	12	16	...	11	...	11	3	11	8	18	2	237	...	3	...	4	...	...	...	...
Chelsea.....	43,108	30	9.0	1	2	...	4	...	11	1	6	4	4	...	28	...	...	...	...	...	...	...	...
Everett.....	41,000	25	7.9	4	4	...	5	...	10	1	2	...	13	...	14	...	...	...	...	...	...	...	...
Lynn.....	105,000	85	10.5	10	11	1	12	...	11	2	4	5	7	...	61	...	2	...	2	...	...	...	...
Melrose.....	18,371	20	14.1	3	3	...	...	...	4	...	...	...	...	...	51	...	...	...	...	...	...	...	...
Quincy.....	48,000	28	7.5	4	4	...	1	...	2	...	1	2	10	...	82	...	22	...	...	...	...	...	...
Somerville.....	95,000	74	10.1	4	5	...	2	...	16	3	4	5	12	...	58	...	3	...	...	...	...	...	...
Watertown.....	22,500	5	2.8	2	2	...	...	...	4	...	1	...	1	...	15	...	10	...	1	...	...	...	...
Newton.....	47,674	42	11.4	4	5	...	3	1	17	1	1	3	6	...	105	...	6	...	...	...	...	...	...
Totals.....	1,369,708	1,189	11.2	130	174	5	219	5	219	32	71	96	259	6	1,492	1	110	1	16	...	...	...	...

* July 1, 1922.

† Including deaths under one year.

MIXING BULK MILK AND CREAM.

In many of the milk and cream cases brought to the attention of the courts, keepers of restaurants and hotels are the defendants. It is also a fact that the bulk of the milk and cream prosecutions are based upon seizures, or sales, by restaurants or hotels. In nearly every instance defendants were handling these products in bulk, and in a majority of these actions it is probable the variation from the standard requirements was due to carelessness of owners or employees, in failing to mix the milk or cream thoroughly before serving customers. Attention has previously been directed to the necessity of careful handling of milk and cream at these establishments, in

order that consumers might not be defrauded in their purchases. Despite former warnings there is evidence that carelessness still exists. In order to again bring this subject to the attention of purveyors of this type, the following statement has been prepared for distribution to the trade:

DEALERS IN MILK AND CREAM.

Important Notice.

The attention of owners of restaurants and hotels (*i. e.*, those handling bulk milk) is called to the necessity of mixing milk at the time of making each sale. Otherwise the cream (the fatty portion) which rises to the top of undisturbed milk is likely to be unevenly distributed. This results in some customers being served with partially skimmed milk. The sale, or possession with intent to sell, of milk skimmed in this manner renders the dealer liable to prosecution.

Mixing at the beginning of selling is insufficient unless all the milk is sold immediately; if a part remains in the container for any length of time such portion should again be mixed when later sales are made.

The above also applies to sales of bulk cream.

A careful observance of this rule will not only accord fair treatment to customers but be a means of protection to dealers.

Some restaurants and hotels are serving milk to their patrons in bottles, the product being bottled and procured from milkmen. This department is advising that all places of the above kind sell milk in this way. Where this suggestion has been adopted there has been practically no complaint from consumers that inferior products were being sold, and officially they usually have been found to conform to legal requirements.

TO KEEP IN GOOD HEALTH IN HOT WEATHER.

Avoid excessive eating or drinking; do not keep late hours; plenty of sleep is very necessary for the health of both mind and body; do not indulge in too much coffee or tea; eat the right kind of food, little meat in hot weather; live and sleep in fresh air; learn to relax; avoid needless worry and undue excitement; wear proper clothing; bathe frequently; avoid excess of sugar, salt and highly seasoned dishes; admit the sunshine to your homes; avoid the "high pressure" life, but have periods of simple and wholesome recreation; drink plenty of pure water; take systematic and proper exercise; keep the teeth in clean and in good condition, and stand, sit and walk erect.

To prevent prostration keep in the shade whenever possible; do not hurry in the crowd, walk slowly and with ease; do not worry because of perspiration, as a person seldom is overcome if he perspires freely; if you feel exhausted or weak, as though about to faint, the first symptoms of heat prostration are upon you. Sit down in the shade and rest, and apply cooling applications to the forehead.

DIETARY PSALM OF LIFE.

[GEORGIA WHITE, in Springfield (Vt.) *Reporter*.]

Though Americans are noted
For their cleverness and wealth,
They are also rather famous
For "enjoying such poor health,"
Just because by reckless diet
They bring on dyspepsia,
Which prevents their all attaining
Age of old Methuselah.

So appealing to this weakness,
"Eat an apple every day,"
Urge the apple growers strongly
"And the doctor keep away";
But the citrus dealers also
With enthusiasm dwell
On the lemons which will surely
Make you beautiful and well.

For a radiant complexion
Carrots are the thing, you read;
Still another faddist tells you
Bran is really what you need.
California, however,
Has a different notion sprung,
And her raisins will for certain
Keep you gloriously young.

Eat more dates, one ad implores you,
And to sickness be immune;
Then immediately someone
Recommends, instead, the prune.
Bosh! you learn a moment later
That you'll feel like dancing jigs
If you will subsist entirely
On rejuvenating figs.

Next it's vitamins you're shy on,
And you must choke down at least
Daily, to be gay and playful,
Three square cakes of nauseous yeast.
There are, too, the breakfast mixtures,
Guaranteed to do you good;
And, in fact, to live forever
Just avoid plain, wholesome food.

Physical Examination.—Tuberculosis is often indicated by loss of weight, frequent colds, unusual sweating and coughs. Physical examination once or twice a year will put you on guard against tuberculosis and give you a chance to be cured or ward off further inroads of this disease.

BUTTER AND CHEESE CASES.

Some time ago this department began prosecutions against dealers in butter and cheese, who were selling these commodities to consumers, deficient in a valuable constituent, namely, milk fat. The cases were based on regulations adopted by the State Department of Health, as authorized by chapter 208, Acts of 1917. The defendants contended in the lower courts that the law under which the regulations were adopted provided no penalty for violation of the standards set forth therein. The Boston Health Department opposed this view, and the action of the lower courts supported this opinion. Appeals were entered by the defendants and the cases have since been pending in the Superior Court, the defendants asserting that they desired a ruling of the Supreme Court on the issue raised before the lower tribunals. Recently the cases were called for trial in the Superior Court. At that time the defendants decided not to contest the cases, and paid substantial fines.

PREPARING FOR VACATION.

So long as the city dweller stays at home and follows his regular daily pursuits his health is safeguarded by an organized corps of federal, state, and city health officials who are daily watching whatever is intended to be consumed by the city dweller for food or drink. Like all human sentinels health officials may fail to do what they are expected to do. For reasons of his own the city dweller may circumvent his sentinels or ignore their warnings with direful results. But the annual sick roll of returning vacationists shows that nothing ever happens to the city dweller who stays at home comparable to what is likely to happen to him when he leaves his city home in search of pleasure and recreation and goes beyond the picket line of the sentinels who guard his health.

The city dweller occasionally discovers that he can produce in his own pantry or ice chest an irritant poison or a bacterial growth which is capable of making him decidedly sick. When he goes away on a vacation traveling about he finds that he must accept attacks of sickness from such causes as a matter of course. People who have to earn enough to maintain themselves for the whole year by boarding vacationists for two or three months are likely to take some chances with respect to wholesomeness of food. On a case of sickness of this character the vacationists will make no mistake in taking one half ounce of castor oil and abstaining from eating until symptoms subside or until medical attendance is secured.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING JUNE, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	7	12.96
7 days or less.....	10	18.52
8 to 14 days, inclusive.....	2	3.70
15 to 21 days, inclusive.....	1	1.85
22 to 31 days, inclusive.....	1	1.85
WITHIN FIRST MONTH.....	21	38.88
Within second month.....	2	3.70
Within third month.....	3	5.56
Within fourth month.....	3	5.56
Within fifth month.....	2	3.70
Within sixth month.....	1	1.85
Within seventh month.....	4	7.41
Within eighth month.....	1	1.85
Within ninth month.....	1	1.85
Within tenth month.....	4	7.41
Within eleventh month.....	0	—
Within twelfth month.....	1	1.85
WITHIN FIRST YEAR PRECEDING DEATH.....	43	79.62
Within second year.....	3	5.56
Within third year.....	4	7.41
More than three years.....	4	7.41
Total.....	54	100.00

DEATHS AND DEATH RATES FOR CERTAIN CITIES, JUNE, 1922.

CITY.	Popula- tion Esti- mated July 1, 1922.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		June 3.	June 10.	June 17.	June 24.	June 3.	June 10.	June 17.	June 24.
Boston.....	764,017	193	164	205	163	13.2	11.2	14.0	11.1
Bridgeport, Conn.....	143,555	36	27	31	32	13.1	9.8	11.3	11.6
Cambridge.....	110,944	18	25	29	20	8.5	11.7	13.6	9.4
Fall River.....	120,790	39	25	25	26	16.0	10.8	10.8	11.2
Lowell.....	114,423	17	25	14	22	7.7	11.4	6.4	10.0
New Bedford.....	127,542	25	16	27	16	10.2	6.5	11.0	6.5
Providence, R. I.....	241,011	51	50	50	49	11.0	10.8	10.8	10.6
Springfield.....	140,052	31	21	19	21	11.5	7.8	7.1	7.8
Worcester.....	188,449	41	28	34	37	11.3	7.7	9.4	10.2

SUMMARY OF THE WORK, JUNE, 1922.

BUREAU OF ADMINISTRATION.

	June.	May.		June.	May.
Conferences	8	2	Poultry slaughtering es-		
Hearings	3	3	tablishments approved,	0	1
Prosecutions ordered . .	19	12	Special drafts	1	1
Orders	5	6	Personnel:		
Dump applications disap-			Appointments	3	7
proved	1	1	Appointments made		
Lying-in hospitals ap-			permanent	2	1
proved	0	1	Leaves of absence		
Cemetery applications			granted	0	1
approved	0	1	Promotions	1	2

LICENSES, PERMITS, ETC., ISSUED.

	June.	May.		June.	May.
Burial permits	890	995	Stable permit granted		
Disinterment permits . .	31	24	conditionally	1	0
Milk licenses	781	1,851	Denatured alcohol li-		
Pedler's licenses, general,	184	228	censes	5	139
Hen licenses granted . .	90	99	Manicure-massage:		
Dump licenses issued . .	0	7	Granted	150	577
Undertaker licenses is-			Beverage establishments		
sued	0	163	licensed	2	13
Stable permit granted . .	1	0	Grease	0	12
			Manure	0	1

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	June.	May.		June.	May.
Visits by medical inspec-			Vaccination certificates .	87	158
tors	1,837	2,852	Cases brought to Boston		
Deaths investigated . .	7	10	for treatment	60	45
Vaccination	148	701	Antitoxin administered .	0	0

NURSING SERVICE.

	June.	May.
Communicable disease visits	2,909	3,403
Babies visited, first visit	868	771
Revisits	1,876	1,489

HEALTH UNIT (Blossom Street).

	June.	May.
Health Department proper:		
Vaccinations	64	855
Vaccination certificates issued	65	198
Cases visited by nurses:		
Communicable diseases	328	250
Complaints made of insanitary conditions	43	25

LIVE STOCK INSPECTION (Brighton Abattoir).

	June.	May.		June.	May.
Cattle inspected . . .	202	137	Parts condemned . . .	218	233
Calves inspected . . .	355	1,857	Animals condemned . . .	6	12
Swine inspected . . .	510	5,110			

DAIRY DIVISION.

	June.	May.		June.	May.
Total inspections . . .	1,148	897	With milk rooms . . .	111	284
Dairies inspected . . .	176	512	Without milk rooms . . .	65	226
Scoring above 50 * . . .	118	349	Inactive	81	140
Scoring below 50 . . .	58	173	Total cattle inspected . . .	2,735	5,449

* Passable mark.

BUREAU OF MILK INSPECTION.

	June.	May.		June.	May.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,256	1,421	Milk	663	756
Ice cream	5	20	Ice cream	189	165
Milk caps for bacteria . . .	24	100	Court cases	40	47
Milk bottles	26	101	Fines	\$560	\$836
Miscellaneous	11	23			

SANITARY INSPECTION.

	June.	May.		June.	May.
Original inspections . . .	2,031	1,530	Car reports	553	548
New reports	3,089	4,995	Complaints	1,287	1,391
Reinspections	6,585	5,960	Court cases	25	22
Legal notices served . . .	423	491	Fines	\$35	\$5

BACTERIOLOGICAL LABORATORY.

	June.	May.
Examinations for diagnosis and release:		
Diphtheria	1,169	1,566
Tuberculosis	247	338
Typhoid	57	50
Gonorrhea	573	637
Gonorrheal ophthalmia . . .	57	49
Syphilis	1,029	1,017
Other examinations	† 22	* 21
Bacteriological examinations of milk	677	708
Bacteriological examinations of ice cream	170	162
Examination of rats	1,104	877

* Smear for Vincent's, 1; paratyphoids, 2; smear for virulence; 8; beef for B. coli, 2; chicken for poison, 1; breast milk for T. B., 1; spinal fluid for T. B., 1; water for B. coli, 1; shrimp for B. coli, 1; hamburg for poison, 1; clam chowder for poison, 1; smear for anthrax, 1.

† Malaria, 8; dark field, 2; intestinal mucus for T. B., 1; cultures for virulence, 3; cream for bacterial count, 1; culture for Vincent's, 1; genito-urinal T. B., 6.

	June.	May.		June.	May.
Baby Hygiene Association:			Conferences:		
Babies cared for	325	335	Number	9	8
Babies newly admitted	23	27	Total attendance	383	356
			Home visits by nurses, ...	512	484
Boston Dispensary:				June.	May
Calls by district physician from Boston Dispensary				67	66
Consumptives' Hospital Department:					
Calls by nurses in districts				861	1,045
Instructive District Nursing Association:					
Visits by nurses				1,904	2,188
Jewish Welfare Center:					
Conferences held				3	4
Number of children attending conferences				114	144
Visitors:					
City				6	12
Out of city				0	0
General:					
Number of persons applying for information				188	194
Pre-natal classes				4	0

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	June.	May.
New reports	2,049	1,769
Stores inspected	3,397	2,748
Sanitary defects remedied	431	270
Complaints at office	65	67
Referred to Sanitary Division	80	70
Milk applications approved	239	183
Street stands inspected	42	28
Peddlers:		
Applications for licenses approved	184	240
Vehicles inspected and approved	763	70
Court cases	21	23
Fines	\$140	\$105

CONDEMNATIONS.

REQUESTED.

Cucumbers	1,136 bushels
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WITHOUT REQUEST.

Asparagus	36 bunches	Bloaters	2 boxes
Barley	600 pounds	Canned goods	6,000 cans
Beans	1,500 pounds	Canned goods	2,850 pounds
Beef	343½ pounds	Chicken	109 pounds
Butterfish	145 pounds	Chickory	400 pounds

Cod scrap	100 pounds	Pickles	1 barrel
Coffee	5 pounds	Plucks	274 pounds
Corn	32 bushels	Pork	34 pounds
Corned beef	142 pounds	Poultry	15 pounds
Dried fruit	200 pounds	Raisins	55 pounds
Fish (miscellaneous)	100 pounds	Rice	2,000 pounds
Flour	500 pounds	Salmon	25 pounds
Fowl	11 $\frac{3}{4}$ pounds	Salt fish	10 $\frac{1}{2}$ pounds
Frankfurts	3 $\frac{1}{2}$ pounds	Shoulders	15 pounds
Grains	1,500 pounds	Shad	21 pounds
Haddock	4 pounds	Smoked shoulder	144 pounds
Halibut	135 pounds	Spare ribs	25 pounds
Hamburger	23 pounds	Split peas	300 pounds
Lamb	82 pounds	Strawberries	36 quarts
Lard	25 pounds	Syrup	35 gallons
Liver	12 pounds	Tea	200 pounds
Macaroni	300 pounds	Tomatoes	20 bushels
Malt	4,000 pounds	Turkeys	15 pounds
Minced meat	40 pounds	Veal	3,354 pounds

TAKE SAFE WATER FOR PICNIC LUNCHES.

The summer season makes it advisable to warn all motorists, hikers, campers and picnickers and others that they take grave chances when they drink water from unknown sources.

In the army, also, official cognizance is taken of this danger and every source of water in the area where troops are serving is examined by water specialists and the source placarded as being pure or impure. Wayside brooks and springs are often badly polluted and may be capable of causing typhoid fever or other serious intestinal disorders. In the absence of positive assurance that the water is consumed by humans with no ill effects, even farm wells should be looked upon with suspicion, because oftentimes convenience rather than safety governs the location of such wells with the result that they are placed too close to privies, sink drains and other sources of contamination.

Only springs in sandy soil remote from roads and human habitations should be considered as safe for drinking purposes. The best and safest course is to carry your own supply from a source known to be pure, or go prepared to boil all drinking water.

Lice and Typhus Fever.—Lice are the only carriers of typhus fever from person to person. Should typhus fever be introduced into Boston, its spread would depend upon the number and distribution of lice in the city. The fewer the lice the less the likelihood of a spread of the disease.

VITAL STATISTICS, JUNE, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JUNE, 1922,
WITH COMPARATIVE FIGURES FOR JUNE, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	752	739	+13	11.81	11.70	+ .11
Nonresidents deducted.....	632	609	+23	9.92	9.64	+ .28
BY AGE:						
Under one year.....	91	91	—	1.43	1.44	— .01
One year to four years, inclusive.....	37	58	—21	.58	.91	— .33
Sixty years and over.....	278	263	+15	4.37	4.16	+ .21
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	62	28	+34	.97	.44	+ .53
Arterio-sclerosis.....	33	36	—3	.52	.57	— .05
Heart disease.....	117	108	+9	1.84	1.71	+ .13
Nephritis, chronic.....	41	44	—3	.64	.69	— .05
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,573	1,588	—15	24.71	25.15	— .44
b. Registered stillbirths.....	45	46	—1	.71	.72	— .01
Stillbirths per 1,000 births and still- births.....				27.81	28.15	— .34
c. Deaths of mothers from causes incident to childbirth.....	10	15	—5	.16	.23	— .07
Deaths of mothers per 1,000 births and stillbirths.....				6.18	9.17	—2.99
d. Deaths of children in first year of life...	91	91	—	1.43	1.44	— .01
Deaths in first year per 1,000 live births...				57.85	57.30	+ .35
VIOLENCE:						
Accidents.....	35	40	—5	.55	.63	— .08
Homicides.....	4	2	+2	.06	.03	+ .03
Suicides.....	13	7	+6	.20	.11	+ .09
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	5	1	+4	.08	.01	+ .07
Broncho-pneumonia.....	18	33	—15	.28	.52	— .24
Cancer.....	82	91	—9	1.29	1.44	— .15
Cirrhosis of the liver.....	6	3	+3	.09	.04	+ .05
Diabetes mellitus.....	16	15	+1	.25	.23	+ .02
Diarrhoeal diseases, children under two years of age.....	8	5	+3	.12	.07	+ .05

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis.....Cases...	—	2	—2	—	.03	— .03
Deaths..	—	—	—	—	—	—
Cerebro-spinal meningitis.....Cases...	4	2	+2	.06	.03	+ .03
Deaths..	1	1	—	.01	.01	—
Diphtheria.....Cases...	195	223	—28	3.06	3.53	— .47
Deaths..	7	8	—1	.11	.12	— .01
Influenza.....Cases...	2	3	—1	.03	.04	— .01
Deaths..	—	2	—2	—	.03	— .03
Measles.....Cases...	719	445	+274	11.29	7.04	+4.25
Deaths..	4	3	+1	.06	.04	+ .02
Pneumonia (lobar).....Cases...	31	58	—27	.49	.91	— .42
Deaths..	14	18	—4	.22	.28	— .06
Scarlet fever.....Cases...	124	146	—22	2.03	2.31	— .28
Deaths..	4	6	—2	.06	.09	— .03
Tuberculosis (pulmonary).....Cases...	179	217	—38	2.81	3.43	— .62
Deaths..	63	60	+3	.99	.95	+ .04
Tuberculosis (other forms).....Cases...	48	43	+6	.75	.68	+ .07
Deaths..	14	9	+5	.22	.14	+ .08
Typhoid fever.....Cases...	9	8	+1	.14	.12	+ .02
Deaths..	1	—	+1	.01	—	+ .01
Whooping cough.....Cases...	57	69	—12	.89	1.09	— .20
Deaths..	1	3	—2	.01	.04	— .03

Oil on Waters.—The nuisance of casting oil refuse into the sea especially from oil-burning and oil-carrying steamers has become a serious menace, and this is especially so where it is carried on near wharves and beaches. There is a fire hazard created by the accumulation of such floating oil on the piles of piers and bulkheads, and a depreciation of property along beach fronts where this oil is destroys the possibilities of bathing, besides threatening to exterminate in such places where it finds lodgement, food fish, oysters, clams, crabs and lobsters.

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.		1109 City Hall Annex.
Secretary		1108 City Hall Annex.
Medical Division		1110-11 City Hall Annex.
Health Unit		17 Blossom street.
Detention Hospital		Southampton street.
Bacteriological Laboratory		1101 City Hall Annex.
Food Inspection Division		1001A City Hall Annex.
Inspection of Foodstuffs		1001A City Hall Annex.
Examination of Milk and Vinegar		1104 City Hall Annex.
Inspection of Dairies		1001G City Hall Annex.
Brighton Abattoir		Market street, Brighton.
Public Health Education		1108 City Hall Annex.
Sanitary Inspection Division		1001C City Hall Annex.
Abatement of Nuisances		1001B City Hall Annex.
Housing Service		1001C City Hall Annex.
Examination of Gas Fitters		1001C City Hall Annex.
Vital Statistics Records and Accounts		
Division		1112 City Hall Annex.
Permits for Burial		110 City Hall Annex.
Superintendent of Peddlers		27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday, Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population				757,634
Live Births		19,397	Birth rate (live births)	 25.60
Deaths		10,217	Death rate	 13.48

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

DO NOT DESTROY.

When you have no further use for this
Bulletin give it to someone else.

1559



MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, JULY, 1922.

No. 7

INVESTIGATION OF TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH.

A recent statistical investigation of the length of time elapsing between the time that cases of pulmonary tuberculosis are first reported to the Health Department and the subsequent date of death has developed conclusions so surprising as to demand action by the department to whatever limit the failure of physicians to comply with the state law will necessitate.

A study of the reports of cases and deaths for the years 1920 and 1921, and a composite year from July 1, 1921, to July 1, 1922, reveals the fact that nearly 30 per cent of the deaths from tuberculosis are either not previously reported as cases at all, or are reported as cases less than a month before death occurs. The number of deaths in the years mentioned and the time periods within which death occurred after the first report of the cases was received by the department, with the percentage of each group period to the total yearly number, may be tabulated as follows:

CLASSIFICATION.	1920.	Per Cent.	1921.	Per Cent.	1921-22. *	Per Cent.
After death.....	80	11.44	94	14.11	104	15.92
7 days or less.....	38	5.44	43	6.45	48	7.35
8 to 14 days, inclusive.....	31	4.43	22	3.30	28	4.28
15 to 21 days, inclusive.....	14	2.00	22	3.30	13	1.99
22 to 31 days, inclusive.....	14	2.00	30	4.50	18	2.75
AFTER DEATH AND WITHIN FIRST MONTH. .	177	25.31	211	31.68	211	32.31
Within second month.....	73	10.44	46	6.90	54	8.26

* From July 1, 1921, to July 1, 1922.

CLASSIFICATION.	1920.	Per Cent.	1921.	Per Cent.	1921-22. *	Per Cent.
Within third month.....	52	7.44	45	6.75	29	4.44
Within fourth month.....	30	4.29	40	6.00	37	5.66
Within fifth month.....	38	5.44	21	3.15	22	3.36
Within sixth month.....	22	3.15	20	3.00	24	3.67
Within seventh month.....	19	2.72	21	3.15	22	3.36
Within eighth month.....	21	3.00	13	1.95	5	.76
Within ninth month.....	22	3.15	17	2.55	19	2.90
Within tenth month.....	19	2.72	16	2.40	21	3.21
Within eleventh month.....	10	1.43	15	2.25	8	1.22
Within twelfth month.....	9	1.29	9	1.35	8	1.22
WITHIN FIRST YEAR.....	492	70.38	474	71.17	459	70.29
Within second year.....	81	11.59	78	11.71	83	12.71
Within third year.....	41	5.87	37	5.55	33	5.05
More than three years.....	85	12.30	77	11.56	78	11.94
Totals.....	699	100.15	666	99.93	653	99.90

* From July 1, 1921, to July 1, 1922.

The cumulative totals for the two years and the composite year and the cumulative percentage for each subsequent time period are as follows:

CLASSIFICATION.	Total Deaths.*	Per Cent.*
After death.....	278	13.77
Within one week.....	407	20.16
Within two weeks.....	488	24.18
Within three weeks.....	537	26.61
WITHIN ONE MONTH.....	599	29.68
Within two months.....	772	38.25
Within three months.....	898	44.49
Within four months.....	1,005	49.80
Within five months.....	1,085	53.76
Within six months.....	1,151	57.03
Within seven months.....	1,213	60.10
Within eight months.....	1,252	62.04
Within nine months.....	1,310	64.91
Within ten months.....	1,366	67.64
Within eleven months.....	1,399	69.32
WITHIN TWELVE MONTHS.....	1,425	70.61
Within two years.....	1,667	82.60
Within three years.....	1,778	88.10
Within three and up to 12 years.....	2,018	100.00

* Cumulative.

The total deaths in each time period for the two years and the composite year may be shown as follows:

CLASSIFICATION.	TOTALS FOR THREE YEARS.	
	Total.	Per Cent.
After death.....	278	13.77
7 days or less.....	129	6.39
8 to 14 days, inclusive.....	81	4.01
15 to 21 days, inclusive.....	49	2.42
22 to 31 days, inclusive.....	62	3.07
AFTER DEATH AND WITHIN FIRST MONTH.....	599	29.68
Within second month.....	173	8.57
Within third month.....	126	6.24
Within fourth month.....	107	5.30
Within fifth month.....	80	3.96
Within sixth month.....	66	3.27
Within seventh month.....	62	3.07
Within eighth month.....	39	1.93
Within ninth month.....	58	2.87
Within tenth month.....	56	2.77
Within eleventh month.....	33	1.63
Within twelfth month.....	26	1.28
WITHIN FIRST YEAR.....	1,425	70.61
Within second year.....	242	11.99
Within third year.....	111	5.50
More than three years.....	240	11.89
Totals.....	2,018	99.93

There are two conclusions with respect to the high percentage of deaths occurring within one month that may be drawn from the above tables: First, that the reason for the large number of deaths so soon after the case is reported is due to the fact that afflicted persons do not call upon a physician to treat them until they are very near death from the disease. We know this to be true with regard to infant mortality among the foreign born and in families of small financial means, and it may be true to some extent in cases of pulmonary tuberculosis among the same classes, although in this connection consideration must be given to the fact that in the former case the victim is a child under one year of age and consequently unable to express his pain or give any indication of its character or effects, whereas in the case of pulmonary tuberculosis 95 per cent of the afflicted are above the age of fifteen years and capable of recognizing any indication of poor health. Cases upon which no

previous report has been received by the department prior to the death return are sometimes accounted for by the fact that the diagnosis of tuberculosis was not made until an autopsy had showed the disease to be the real cause of death. There is too great a difference, however, between the total of such cases and the total number of cases in which the death certificate is the first and only notice to the department, to escape attention and investigation.

The second conclusion, and the reason for publishing this report, is that the reason for such a large number of deaths so soon after first report is made is due to the fact that physicians for reasons of their own hold an indifferent regard for the letter of the law in the matter and fail to report cases until the dangerous stage is reached and the death of their patient seems inevitable in the immediate future.

The law on the matter of reporting is very clear and may be quoted as follows:

III. General Laws: "Physicians to Report Names of Persons Afflicted with Certain Diseases.—Section 111. if a physician knows that a person whom he visits is infected with smallpox, diphtheria, scarlet fever, or any other disease declared by the department to be dangerous to the public health, or if either eye of an infant whom, or whose mother, a physician or a hospital medical officer registered under section nine of chapter one hundred twelve, visits becomes inflamed, swollen and red, or shows an unnatural discharge within two weeks after birth, he shall immediately give written notice thereof, over his own signature, to the board of health of the town; and if he refuses or neglects to give such notice he shall forfeit not less than fifty nor more than two hundred dollars."

It is unnecessary to remind physicians that tuberculosis, all forms, is one of the diseases declared by the State Department of Public Health to be "dangerous to the public health" and therefore reportable under the above law. So long as this law remains on the statute books it is reasonable to presume that it is a wise law, calculated to accomplish some desirable public good, and it may also be presumed that good citizenship, quite aside from the fear of any penalty provided for, will lead to its compliance.

Investigation, however, supported by the figures given in the tables above, indicates clearly that the law is not being complied with to the degree that the department has a right to expect from the nature of the disease. Physicians who have been interrogated on the subject have given a number of reasons for their failure to report cases, which, while they are interesting as commentary side-lights on the psychology of persons afflicted with the disease, are not, nevertheless, sufficient to excuse the physician for his failure to comply with the law. A reason very often given is that the patient stated that a previous doctor had reported the case, and he

desired to avoid duplication. Other patients have asked doctors not to report their case to the authorities because of their antipathy toward having any record anywhere of their affliction, an aversion that is readily understood in the case of the so-called social diseases, and which is apparently similar in the case of pulmonary tuberculosis. Other doctors have stated that patients with sufficient financial means to take proper care of themselves and secure the best treatment possible object strenuously to the round of inquisitorial nurses, medical inspectors, and agents of state and city, and social welfare and antituberculosis workers who visit, either by law or by inclination, the unfortunate victim who has contracted the disease. Other reasons for noncompliance, or late compliance, such as "lack of cards," "loss of note book," "error of clerk," etc., cannot be accepted as absolving the physician from his culpability.

The citizens of Boston are being continuously urged by the city Health Department through its BULLETIN, press notices, health units and individual representatives, to consult their physician frequently and always upon the first indication of physical disability. We are particularly concerned with the elimination of the unnecessary deaths that are caused by the failure of persons to seek medical aid until the disease has passed beyond the restorative or curative powers of medicine. The department is eager to co-operate with the physician, and in the matter of the wishes of patients will work with him to secure the best results, physically and mentally. Consideration is now being given to a suggestion that the post cards on which cases of tuberculosis are reported have some place thereon where the physician may indicate whether the presence of a department nurse is desired. All other suggestions to improve the reporting of all dangerous diseases are welcomed and utilized if they are found to have merit. Enforcement of the law, however, will be hereafter insisted upon, and physicians will be held accountable for failure to report immediately any case coming under the state law in order that the department's policy of the greatest good to the greatest number may be followed, and the public health properly insured and protected, to the end that the preventive medicine of the future may have a sound foundation in the records of what has happened in the past.

Invitations are being sent all over the world to educators, sanitarians, health officers, etc., to attend the International Housing Congress to be held in Rome September 21 to 26, 1922. Original drawings, prints, sketches or models showing improved housing methods for exhibition before the Congress are being solicited by the Executive Committee, Via del Clemintino 101, Rome (9).

ANTI-MOSQUITO ASSOCIATION ORGANIZES.

A meeting of the committee to make arrangements for the organization of an Anti-Mosquito Association of Massachusetts for the purpose of taking immediate steps to eliminate the mosquito nuisance in metropolitan Boston was held in the office of the Health Commissioner, City Hall Annex, Boston, on July 17.

There were present at the meeting Mr. George C. Whipple, chairman, professor of sanitary engineering, Harvard University; Mr. Albert C. Nyphen, secretary, director of fly and mosquito suppression, Brookline Health Department; Dr. Francis X. Mahoney, Health Commissioner, Boston, Mass.; Mr. Charles T. Brues, professor of economic entomology, Harvard University; Mr. William F. Harris, chairman of Cambridge Planning Board; Mr. W. Chester Gray, Chamber of Commerce and Massachusetts Real Estate Exchange; Mrs. L. J. Johnson, Cambridge; Mrs. Edward E. Allen, president of New England Women's Club; and Mrs. Percy G. Bolster, Women's Municipal League, Boston.

The objects of the association were outlined and adopted as follows:

To stimulate interest in the suppression of mosquitoes and other insects which affect human comfort and health; to secure and spread information, and to urge co-operative efforts by individuals, associations, communities and their governments to the end that these insect nuisances be done away with.

The committee will meet on August 3 at Pierce Hall, Cambridge, at which a constitution will be adopted, and members of the technical, publicity and finance committees chosen. The further organization of local committees will be provided for in the constitution which will be drawn up by Messrs. Gray and Harris.

Under the leadership of Professor Whipple the Anti-Mosquito Association should have the co-operation of every man, woman and child in the state. The offices of the Boston Health Department have been put at the disposal of the association and the interested help of all citizens is solicited in order that the peace-disturbing and disease-carrying mosquito may be exterminated and its breeding places destroyed.

INFANT MORTALITY RATE HIGHER THAN LAST YEAR.

Boston had the lowest infant mortality rate in its history in 1921. The efforts that the Health Department is making to equal that record this year depends upon the especial efforts of mothers during the summer season to guard against the sickness and death of their babies because of overheating and improper feeding.

Boston mothers should consult their family physicians about the baby's diet or visit the nearest station of the Baby Hygiene Association and get all the help and instruction they need. It is much easier to prevent babies from becoming sick than it is to cure them once they are afflicted.

The city's infant mortality rate (deaths of children under one year per 1,000 live births) for the first six months in 1922 does not compare favorably with the same period in 1921. The exact rates are as follows:

MONTH.	1921.	1922.	MONTH.	1921.	1922.
January.....	90.05	99.77	July.....	70.08	68.00
February.....	88.76	118.99	August.....	85.60	
March.....	92.52	113.94	September.....	72.17	
April.....	80.56	109.64	October.....	66.92	
May.....	83.59	58.41	November.....	61.94	
June.....	57.85	57.30	December.....	77.27	

In the first six months in 1921 there were 9,404 live births and 771 deaths in the first year of life, giving us a rate of 81.98 for the period. In the same period in 1922 there were 8,975 live births and 830 deaths under one year, making the rate 92.47 for the period.

OTHER CURRENT DISEASE STATISTICS.

Diphtheria and scarlet fever cases are below the normal.

Measles, which has been high all year, reaching the peak of 256 new cases in the week ending April 22, has swung steadily downward, and the thirty-eight cases for the last week is only slightly above normality for this season of the year.

Boston is having the same high incidence of whooping cough as other large cities. This disease usually reaches the peak in August. Thirty-four cases each week for the last two weeks is the highest weekly figure since the week ending August 14, 1920, when there were thirty-seven cases.

There has been no case of, or death from, smallpox reported in Boston so far this year.

Typhoid fever is much lower for the 1922 six-month period than it was in the same period in 1921.

First six months, 1921: New cases reported, 56; deaths, 9.

First six months, 1922: New cases reported, 32; deaths, 3.

For the past month cases of lobar pneumonia have averaged less than six cases a week.

THE MOSQUITO.

The mosquito is a *pest*. We have all been bothered by it. Our peace and comfort have been destroyed on pleasant summer evenings, infant and adult suffer alike in the depredations caused by this disturbing element in our community, and it is known to be a carrier of disease.

No matter where we may be we are likely to feel the presence of the mosquito. There are many kinds of them, but they are generally divided into four classes, namely, salt marsh mosquito, swamp mosquito, woodland mosquito and house mosquito. And so, in all our pleasant activities in the course of the summer, we are bound to come in contact with at least one variety of the mosquito.

The mosquito breeds in salt marshes, woodland pools, tin cans, rain barrels, broken bottles, undrained roof gutters, dumps, catch-basins, cesspools, post holes, hoof prints, tanks in greenhouses, fountains, troughs, holes in trees, vases, water pitchers, toilet fixtures, clogged sinks, cuspidors, tubs, pools, aquariums, and fountains without fish, margins of lakes and streams, broken crockery, wells, flower pots, street and roadside gutters, street puddles and ditches, and, in fact, any and every place that is capable of holding water that is undisturbed or that has become stagnant.

There are four life stages through which a mosquito passes: The egg, larva, the pupa and the adult winged insect. The first three stages are aquatic. The insect breeds in the water and does not move from the surface until ready to fly, when it frequently rests and hides in vegetation. The mosquito is not bred in damp grass, weeds or bushes, as is commonly supposed, even though we come in contact with him in our rambles through the woods or while wading at the shore. Its method of attack is by biting and in puncturing the skin with a small saw which it carries in the tube through which it sucks the blood, and as the blood is too thick to pass through the tube, it injects saliva to dilute it. It is in this manner, too, that it transmits disease if it has bitten infected persons or has been feeding on filthy and poisonous material.

In many swamps and damp regions in the world successful campaigns have been carried on against the mosquito, particularly of the disease-carrying type, and in sections of Italy, Africa, Cuba, Brazil, Mexico, Panama, the Philippines, and in our own country, in New Jersey, the city of New Orleans, and in the Middle West, effective work has been done in the eradication of it. To do the work on a large scale successfully means, of course, an outlay of time, energy and money. Particularly if it is to apply to vast areas of swamp land, such as took place in sections mentioned in the fore-

going. But we can do our part in our own little way, and if in each community the landowner and the householder will co-operate, much may be done to eliminate the breeding places of the mosquito. In doing this we prevent propagation of the dangerous adult mosquito. There are many ways in which the individual can assist in ridding his premises of mosquitoes and there are other ways by which action on the part of citizens of a community may rid the community of this insect. In the extermination of the rat we say, "Build them out," and in the campaign against the mosquito, we may say, "Dry them up." Removing the sources where mosquitoes breed, if such places are around your house and my house, is the least expensive and most effective method of extermination. Kill every mosquito you see about your house. If they exist in great numbers you may destroy them by fumigation, burning of sulphur, or insect powder, but care should be taken to gather and burn the insects at once because by this process they may only be temporarily stupefied. Where we are obliged to have water standing in tanks, barrels and other receptacles, it should at all times be covered with a material made of fine wire mesh, in the form of a screen. Cesspools should be tightly covered and vents tightly screened, and stagnant water removed from any and all receptacles around your homes. Ponds, fountains and aquariums should be provided with fish that will eat the eggs that are laid on the surface of the water. Salt marsh lands may be filled by pumping silt or sand into the low area and depressions near and about us may be filled in by cinders and ashes, or clean dirt. Draining and ditching of marshy lands may be resorted to for large areas. The use of coal oil on the surface of water suffocates the larvæ and pupæ of the mosquito, and along the banks of ponds, lakes and slowly moving streams where vegetation is abundant, a light quality of oil may be used with the aid of a sprinkling pot or the surface may be sprayed with a hose. One ounce of oil is sufficient to cover fifteen square feet of water. Screening of premises is an effective way to combat the inroads of the mosquito, but in order to be effective the screening must be properly done and the mesh of the screen sufficiently close to keep out the mosquito. In screening, care must be exercised not to overlook fire places, ventilators and other openings. In some places where it is impossible to eliminate or exterminate the mosquito, mosquito bars over the bed have been found necessary. There are many miscellaneous measures and means that have been adopted and are at the present time used to keep the mosquito away. Individuals resort to the use of pennyroyal, oil of peppermint, spirits of camphor, lemon juice or vinegar. Rubbed on the face and hands, or a few drops on the pillow have been of temporary usefulness. Oil of

citronella is probably the most commonly used substance, and oftentimes a few drops on the towel or a sheet hung over a bed will keep the common house mosquito away, but this is for only a short time. All of these oils lose their efficiency over night.

It would be well if this subject of the extermination of mosquitoes was treated with more seriousness by everyone because the mosquito is a health menace and an economic loss. In Massachusetts last year there were reported forty-nine cases of malaria, eighteen of which were from Boston. In the country, at the seashore and motoring this pest always appears, and we are all bound to be bothered by it. They are a handicap to a summer resort, and have often been the cause of the abandonment of summer cottages and hotels simply because of the neglect of owners or proprietors of such places to do a little work and spend a little money in destroying their breeding places, and the best way to prevent mosquitoes is to prevent their breeding places, and if we have no standing water or stagnant lands we have no breeding places, and this means no mosquitoes, no discomfort and no malaria. Therefore, if each individual will take it upon himself to keep his own premises clean and free from stagnant water, he will do much in the way of co-operation with the community which will adopt measures on a larger scale to exterminate them. Let us not mistake the firefly for the mosquito carrying the lantern. The best way to fight the attack of the mosquito is not to have him in our midst. He is an unwelcome guest and a forbidden host, and an outcast that deserves no shelter or protection.

Campaigns waged against the mosquito are commendable and deserve the support, sympathy and co-operation of all our citizens. City and town governments should lend a helping hand and aid one another whenever and wherever it is possible. The outstanding fact remains, however, that each and every individual must do his part and his share if we are to exterminate this pest from our midst.

POISON IVY DANGEROUS.

A word of advice may not be amiss at this time, again, to vacationers who visit the country sections for pleasure and enjoyment out of doors. Do not forget that poison ivy plants grow around stumps of trees, over fences and walls, when you are tramping out in the open. If the plant comes into contact with the skin, it will cause irritation and severe itching which if scratched will cause the irritation to spread and affect other parts not theretofore affected. The plant is not hard to recognize. It grows in small bushes, the leaves radiate from a common stalk and are noticeable by the growth

of three leaves in a cluster like a shamrock at the extreme tip of the small branches leading from the stalk. The leaves are somewhat hairy and irregularly shaped. Little white berries grow on the plant.

It is a good idea whenever you return from a ramble through the country and have not been particularly observant as to whether or not you have come, perhaps accidentally, into contact with this plant, to wash your hands first, then your face, with plenty of hot water and soap. Make a very heavy lather and wash thoroughly for five minutes. Rinse the hands and face several times, and use running water for each rinsing. Do *not* use a brush. If you think you have come into contact with the plant, after the precaution of washing, as indicated above, it is advisable to call a physician at once. If you have to handle the plant, wear rubber or thick leather gloves, with gauntlets to protect the wrists.

MUZZLING OR RESTRAINING OF DOGS.

CITY OF BOSTON,
IN CITY COUNCIL, July 24, 1922.

Ordered, That all dogs within the limits of the City of Boston be muzzled or restrained from running at large for the period of three months from the date of the passage of this order, and the members of the police force of the City of Boston are hereby authorized and empowered to make special service upon the owner or keeper of each dog within the limits of the city by delivering to the owner or keeper of such dog a certified copy of this order.

Passed. Approved July 25, 1922.

JAMES M. CURLEY, *Mayor*.

EXTRACTS FROM THE GENERAL LAWS, CHAPTER 140.

SECTION 167. The aldermen or selectmen may order that all dogs shall be muzzled or restrained from running at large during such time as shall be prescribed by such order. After passing such order and posting a certified copy thereof in two or more public places in the town, or, if a daily newspaper is published in such town, by publishing such copy once in such newspaper, the aldermen or selectmen may issue their warrant to one or more of the police officers or constables of such town, who shall, after twenty-four hours from the publication of such notice, kill all dogs found unmuzzled or running at large contrary to such order. . . .

SECT. 168. The aldermen or selectmen may cause service of such order to be made upon the owner or keeper of the dog by causing a certified copy thereof to be delivered to him; and if he refuses or neglects for twelve hours thereafter to muzzle or restrain such dog as so required, he shall be punished by a fine of not more than twenty-five dollars.

A SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following table is the result of a survey made of market milk sold in Boston by dealers and chain stores, the percentages being an average obtained from three samples secured in each case. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat.

WAGON MILKS.

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Alden Brothers.....	12.14	3.49	145
Anderson, Oscar A.....	12.30	3.58	576
Antetomasso, Peter.....	12.20	3.58	344
Barron, C. W.....	13.29	4.32	8
Barrow, Fred G.....	12.09	3.53	16
Barry, Michael F.....	12.20	3.60	45
Bemis, Henry G.....	12.16	3.55	42
Bergmann, John H.....	12.59	3.85	17
Bowditch, E. F., Estate.....	11.92	3.27	87
Brandley, T. J. and P. J.....	11.98	3.48	36
Brandon Farm Milk Company.....	12.09	3.50	346
Brookdale Creamery.....	11.66	3.27	78
Burns, James.....	12.15	3.57	28
Casey, J. D.....	12.09	3.35	483
Cashin, James F.....	12.11	3.58	320
Cataldo, Nunzio.....	12.15	3.58	70
Chapin, G. L.....	12.31	3.58	130
Childs Brothers.....	12.20	3.53	362
Cohen, Benjamin.....	12.26	3.65	30
Corkery, J. H.....	12.33	3.70	516
Creeden & Crowell.....	12.24	3.65	256
Cummings, F. S., Company.....	12.39	3.72	80
Cunningham, Paul.....	12.59	3.96	848
Cusick, William H.....	12.05	3.50	29
Deerfoot Farm Milk Company.....	12.59	3.83	19
Denchy, Timothy.....	12.41	3.80	382
Driscoll, W. B., Company.....	12.47	3.83	16
Duggan Brothers.....	12.49	3.73	237
Eagerly, Frank S.....	12.13	3.50	557
Elm Spring Farm Company.....	12.21	3.62	127
English, John.....	12.18	3.55	422
Ferguson, Malcolm D.....	12.97	3.97	821
Garvin, C. E.....	13.53	5.03	235
Giroux, J. E., & Co.....	12.43	3.82	80
Griffin, J. L.....	12.44	3.75	43
Griffin, Thomas J.....	12.31	3.57	149
Gushee, W. S. & C. W.....	12.21	3.52	44
Hazar, J. M., & Son.....	12.33	3.68	65
Hancock, T. G., Company.....	12.25	3.73	161
Herlihy Brothers.....	12.36	3.65	116
Hickey, M. J.....	12.55	3.77	62
Holden, John E.....	12.74	3.90	65
Hood, H. P., & Sons, Inc.....	12.13	3.53	38
Jasiates, Thomas.....	14.06	4.93	20
Jones, W. T., Co., Inc.....	12.65	4.00	20
Kendall, Brothers.....	11.82	3.43	378
Kennedy, Robert J., Jr.....	12.11	3.50	136
Kingston, Samuel.....	12.73	4.03	89
Klaw & Freeman.....	12.65	3.77	135
Knapp, George J.....	12.31	3.65	110
Lang, Michael J.....	12.58	3.68	120
Larkin, Patrick.....	13.09	4.08	193
Larson, Charles.....	12.31	3.60	15
Lesser, Joseph.....	12.24	3.62	502
Lincoln Farms, Inc.....	12.72	4.18	756
Lubin, Felix.....	12.23	3.53	138
Lyndonville Creamery Company.....	12.26	3.38	154
Magee, Mrs. Nellie A.....	12.72	3.71	177
Manning, Peter E.....	11.71	3.10	371
Maple Farm Milk Company.....	12.21	3.60	163

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
McAdams, John F.	12.34	3.67	191
McKernan, John.	12.44	3.83	68
Moore, Peter.	12.15	3.60	275
Morgan, G. D., & Sons.	12.37	3.80	290
Munchbach, George.	12.31	3.55	46
New England Consolidated Farms.	12.38	3.53	108
Nelson & Bennison.	12.29	3.62	366
Newton & Pope.	12.77	3.95	31
Noble, W. F., & Sons.	12.73	3.85	14
O'Neill, James J., & Co.	12.11	3.43	55
O'Shaughnessy, P.	12.05	3.50	122
Plymouth Creamery System, Inc.	12.36	3.70	50
Pond, Harvey T.	12.73	3.90	633
Raycraft, B. F.	12.16	3.77	55
Rayfuse, Lester A.	12.92	4.33	840
Robbins, F. E.	12.27	3.68	48
Robinson, A. J.	12.61	3.83	36
Robinson, J. A.	11.79	3.40	74
Runkle, J. C.	11.72	3.36	32
Schuster, Adam J.	12.16	3.50	52
Seven Oaks Dairy Company.	12.52	3.83	174
Shattuck, Milo P.	12.09	3.57	303
Shick, Jacob.	12.15	3.57	323
Shick, Mary.	12.71	3.94	561
Smith, Walter H.	11.88	3.45	19
Somerset Farms Creamery Company.	12.71	3.83	48
Sterling Farms Milk Company.	12.32	3.68	50
Stone, Harvey L.	12.23	3.53	123
Stuart, Wallis E.	12.82	3.93	40
Sullivan, John D.	12.35	3.70	57
Sullivan, J. L.	12.15	3.83	230
Toothaker Brothers.	12.35	3.67	15
Turner Centre System.	12.49	3.93	34
Upland Farm Milk Company.	12.19	3.60	34
Walker Gordon Milk Company.	12.47	3.88	9
Ware, George H.	12.37	3.67	227
Warren, Cornelia.	13.15	4.25	15
Weiler, E., & Sons.	12.26	3.65	25
Werner, Ferdinand, Company.	12.15	3.48	64
Westwood Farm Milk Company.	12.29	2.67	45
White Brothers.	13.03	4.20	73
Whittemore, Warner D.	12.22	3.73	41
Winer, Morris.	12.37	3.62	1,204
Whiting Companies.	12.04	3.52	32
Wiswall, Granville A.	12.07	3.48	35
Wittenberg & Co.	12.38	3.45	397

CHAIN STORE MILKS.

NAME OF DEALER.	SUPPLIED BY	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	H. P. Hood & Sons, Inc.	12.23	3.56	284
John T. Connor Company.	Bellows Falls Co-operative Creamery Association.	12.68	4.07	59
Co-operative Grocery Company,	J. M. Hagar & Sons.	12.27	3.70	90
Economy Grocery Stores.	Plymouth Creamery System, Inc.	12.26	3.70	1,374
Morgan Brothers Company.	Whiting Milk Companies.	12.10	3.51	190
M. O'Keefe, Inc.	J. M. Hagar & Sons.	12.45	3.84	69

STERILIZATION OF MILK RECEPTACLES.

The regulations of the Boston Health Department (1915), still in effect, require that all cans, bottles or other vessels of any sort, used in the sale, delivery or distribution of milk or cream shall be cleansed or sterilized before they are again used for the same purpose.

The United States Department of Agriculture, Bureau of Animal Industry, Dairy Division, recently issued a circular letter relative to the dangers attendant upon the carelessness of milk consumers in wholesale quantities, particularly with respect to the immediate washing of milk receptacles after the contents have been used.

The hot weather season, now at its height, should operate as a hint to milk consumers to use a little more precaution in the matter of cleansing milk receptacles immediately after they are emptied. It is an easy matter for proprietors of hotels and restaurants and bakeries to overlook a detail such as this, especially when it is considered that they invariably depend upon subordinates to take care of such matters. But from the standpoint of public health, proprietors should caution their subordinates in the matter of sterilization of milk cans immediately after the contents have been used up. The accumulation of milk in the cans after they are emptied will, especially in hot weather, cause rapid decomposition unless the cans are rinsed out with warm water before being laid aside for the dealers' collectors. While such surface deposit of milk will, in time, in any kind of weather, eventually sour and decompose and render the cans unsterile, it is particularly true during hot weather. For this reason all cans used for milk should be immediately rinsed out with warm water after the contents have been used.

The difficulties connected with mechanical sterilization are rendered more potent by the lack of co-operation by wholesale milk consumers through oversight or carelessness on the part of themselves or their subordinates. The Health Department calls this matter specially to the attention of milk consumers in wholesale at this time, urging upon them the need for co-operation in the matter of preliminary sterilization of receptacles so as to facilitate the mechanical sterilization processes in use by milk dealers.

The occasion of the one hundredth anniversary of the birth of Pasteur is to be fittingly celebrated by an international Exposition of Scientific and Industrial Hygiene, to be held in Strasburg, France, from June to October, 1923. The exposition will have the patronage of the French government and the general committee hope for a large representation from the United States. The Committee on Statistics and Demography have asked the Boston Health Department for a display.

SCHICK TOXIN-ANTITOXIN SUMMARY REPORT, MAY 6, 1922, TO JULY 31, 1922.

	May, 1922.	June, 1922.	July, 1922.	Total.
Schick tests.....	524	1,505	* 1,401	3,438
Schick readings.....	523	1,473	646	2,644
Schick not read.....	† 1	† 32	† 142	† 175
REACTIONS:				
Positives.....	291	157	323	771
Positive combined.....	32	66	26	124
Negatives.....	154	977	236	1,367
Pseudo.....	45	263	61	369
Certificates issued.....	200	592	166	958
T. A. IMMUNIZATIONS:				
First injections.....	212	65	246	523
Second injections.....	74	228	137	439
Third injections.....	37	293	91	421
CULTURES:				
Cultures taken.....	327	159	366	852
Positive.....	9	16	39	74
Negative.....	308	139	327	774
Virulence tests performed to date.....				† 74
MISCELLANEOUS:				
Demonstrations to physicians to date.....				47
Letters to parents to date.....				299

* 621 to be read August 1. † Absentees. ‡ 6 negative; 5 slightly virulent.

The various institutions covered and the number of Schick tests performed to date are as follows: Carney Hospital, 1,016; House of the Angel Guardian, 674; St. Gregory's School, 385; St. John's School, 322; St. Anthony's School, 310; St. Vincent's Orphanage, 178; Health Unit Clinic, 126; Long Island Hospital, 106; Little Wanderers' Home, 78; Daly Industrial Home, 70; Massachusetts General Hospital Clinic, 67; New England Peabody Home, 47; Children's Hospital Clinic, 46; Italian Home, 27; Martin Luther Home, 27 — total, 3,480. Included in this number are 42 re-Schicks for demonstrative purposes to physicians.

The following clinics were opened in July — Carney Hospital, Massachusetts General Hospital, Children's Hospital, Health Unit. The Boston City Hospital Clinic has been opened in conjunction with the Health Department. St. Elizabeth's Hospital, Boston Dispensary and East Boston Health Clinic will open during August.

RABIES.

The number of dog bites and cases of rabid dogs coming to the attention of the department veterinarian is higher this year than in preceding years. While a majority of these cases of rabies occur originally in places outside of Boston and do not come under the province of the Health Department until brought to a Boston hospital for treatment, the total number of dog bites and cases of rabies reported monthly have been as follows:

MONTH.	Dog Bites.	Rabies.	MONTH.	Dog Bites.	Rabies.
January.....	19	1	May.....	29	2
February.....	26	1	June.....	24	2
March.....	32	3	July.....	26	2
April.....	41	3			

An order of the City Council, dated July 24, compelling the restraining or muzzling of all dogs for a period of 90 days, appears elsewhere in this issue.

BATHING IN POLLUTED WATERS.

Many cases of typhoid fever in past years have been traced to the habit of bathing in rivers and streams which are public sewer outlets, and in canals leading to tidewater that are known to be polluted. While it is known that a swiftly flowing stream purifies itself of sewage in a few hundred feet, too much care cannot be exercised in the selection of a safe spot for bathing. In the warm weather out of door bathing is a healthy and refreshing pastime and as such is commendable, but a warning to those whose desire for bathing leads them to the nearest stream, regardless of the possibility of the inhibition of typhoid fever germs, seems advisable.

Typhoid fever may also be contracted from eating uncooked shellfish taken on the banks of polluted rivers and canals.

The Health Department is making routine examinations of water taken at numerous times from the swimming pools within the city limits which are utilized to a great extent in summer as well as winter by those who cannot take advantage of the excellent bathing beaches in the vicinity, and the finding of any polluted water in such pools will result in remedial action against the owners. The co-operation of citizens in reporting to the department the name and location of any public pool suspected of being polluted is solicited.

HOW LONG WILL YOU LIVE?

Life tables, showing how many years people may be expected to live in different areas in the United States, have recently been made up from the 1910 and 1920 census figures by the Department of Commerce.

According to these tables, male babies now being born in Boston may expect to live to be 50.55 years old, and female babies may expect to live 53.32 years.

For the entire area studied, which includes 74 per cent of the population of the United States, males who have reached the age of 32 may expect to live 34.93 years longer, and females may expect to live 36.12 more years. Persons who have attained the age of 62 may expect to live — females 14.01 and males 13.38 more years.

The apparent paradox that the older you are the longer you will live is based on the fact that the period of early youth is the most dangerous in life. An average of 25 per cent of all deaths yearly occur among children from birth to 5 years. The age period from 15 to 30 is the most dangerous stage for the contraction of influenza and other respiratory diseases; 85 per cent of all deaths from pulmonary tuberculosis occur in this age period.

The longest lived people are found in Kansas where the expectation of life at birth is 59.73 years for white males and 60.89 for white females. The shortest lived people are found in Pittsburgh, the expectation of life in that city being 47.16 years for males, and 50.42 for females.

Between 1910 and 1920 the expectation of life in all the New England States, New York, New Jersey, Indiana, Michigan and the District of Columbia has increased 3.75 years for white males and 2.71 years for white females.

The Eleventh Annual Safety Congress of the National Safety Council will be held in Detroit, August 28, to September 1, 1922. Headquarters have been established at the Cass Technical High School. The Council's success in reducing the number of accidents due to lack of occupational safeguards, personal carelessness, etc., has been noteworthy. When it is realized that accidents have caused an average of 500 deaths a year for the last five years in Boston alone the need for such an institution is obvious.

SUMMARY OF THE WORK, JULY, 1922.

BUREAU OF ADMINISTRATION

	June.	July.		June.	July.
Conferences	8	3	Special drafts	1	1
Hearings	3	0	Contracts approved	0	4
Prosecutions ordered	19	15	Personnel:		
Orders	5	4	Appointments	3	6
Lodging houses certified, ...	0	1	Appointments made permanent	2	0
Dump applications:			Promotions	1	1
Disapproved	1	0	Offensive trades licensed, ...	0	1
Approved	0	4	Forceible removals	0	3
Revoked	0	1	Buildings ordered demol-		
Lying-in hospitals ap-			ished	0	17
proved	0	4			

LICENSES, PERMITS, ETC., ISSUED.

	June.	July.		June.	July.
Burial permits	890	874	Denatured alcohol li-		
Disinterment permits	31	10	censes	5	5
Milk licenses	781	235	Manicure-massage:		
Pedler's licenses, general, ...	184	46	Granted	150	34
Hen licenses granted	90	166	Beverage establishments		
Stable permit granted	1	1	licensed	2	28
Stable permit granted			Grease	0	5
conditionally	1	1			

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	June.	July.		June.	July.
Visits by medical inspec-			Vaccination certificates	87	2
tors	1,837	1,030	Cases brought to Boston		
Deaths investigated	7	13	for treatment	60	33
Vaccination	148	15	Antitoxin administered	0	5

NURSING SERVICE.

	June.	July.
Communicable disease visits	2,909	2,049
Babies visited, first visit	868	388
Revisits	1,876	2,463

HEALTH UNIT (Blossom Street).

	June.	July.		June.	July.
Health Department proper:			Conferences:		
Vaccinations	64	5	Number	9	7
Vaccination certificates issued	65	5	Total attendance	383	291
Cases visited by nurses:			Home visits by nurses, ...	512	424
Communicable diseases	328	141			
Complaints made of insanitary conditions	43	55			
	June.	July.		June.	July.
Baby Hygiene Association:					
Babies cared for	325	335			
Babies newly admitted	23	26			

	June.	July.
Boston Dispensary:		
Calls by district physician from Boston Dispensary	67	62
Consumptives' Hospital Department:		
Calls by nurses in districts	861	779
Instructive District Nursing Association:		
Visits by nurses	1,904	1,729
Jewish Welfare Center:		
Conferences held	3	4
Number of children attending conferences	114	46
Visitors:		
City	6	2
Out of city	0	1
General:		
Number of persons applying for information	188	302
Pre-natal classes	4	4

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	June.	July.
New reports	2,049	1,329
Stores inspected	3,397	2,677
Sanitary defects remedied	431	317
Complaints at office	65	81
Referred to Sanitary Division	80	37
Milk applications approved	239	159
Street stands inspected	42	34
Peddlers:		
Applications for licenses approved	184	138
Vehicles inspected and approved	763	576
Court cases	21	9
Fines	\$140	\$50

CONDEMNATIONS.

BY REQUEST.

Frankfurts	3½ pounds	Walnut meat	3½ pounds
Frogs' legs	35 dozen		

WITHOUT REQUEST.

Almonds	4 pounds	Kidney	5 pounds
Beef	776 pounds	Lamb	290 pounds
Candy	20 pounds	Lard	15 pounds
Cheese	630 pounds	Lemons	3 dozen
Chicken	73 pounds	Liver	7 pounds
Chickory.. . . .	1,400 pounds	Melons	1 crate
Corned beef	75 pounds	Mutton	48 pounds
Evaporated apples	1,650 pounds	Peanuts	40 pounds
Fish (miscellaneous)	40 pounds	Pig	9 pounds
Flanks	90 pounds	Pineapples	225 cases
Flour	19,967 pounds	Pickles	750 pounds
Fowl	4 pounds	Plucks	15 pounds
Ham	26 pounds	Plums	10 crates
Hamburger	3 pounds	Pork	175 pounds

Poultry	8 pounds	Sweetbread	22 pounds
Prunes	25 pounds	Sweets and plucks	73 pounds
Salt cod	5 pounds	Tomatoes	208 cases
Salt fish	35 pounds	Tomatoes	50 cans
Sausages	75 pounds	Tongue	1 pound
Smoked shoulder	115 pounds	Veal	1,175 pounds
Squabs	6 pounds		

LIVE STOCK INSPECTION (Brighton Abattoir).

	June.	July.		June.	July.
Cattle inspected	202	266	Parts condemned	218	259
Calves inspected	355	212	Animals condemned	6	6
Swine inspected	510	3,689			

DAIRY DIVISION.

	June.	July.		June.	July.
Total inspections	1,148	1,149	With milk rooms	111	294
Dairies inspected	176	450	Without milk rooms	65	156
Scoring above 50 *	118	315	Inactive	81	77
Scoring below 50	58	135	Total cattle inspected	2,735	5,865

* Passable mark.

BUREAU OF MILK INSPECTION.

	June.	July.		June.	July.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,256	1,128	Milk	663	603
Ice cream	5	36	Ice cream	189	24
Milk caps for bacteria	24	0	Court cases	40	10
Milk bottles	26	0	Fines	\$560	\$95
Miscellaneous	11	5			

SANITARY INSPECTION.

	June.	July.		June.	July.
Original inspections	2,031	1,503	Car reports	553	504
New reports	3,089	2,336	Complaints	1,287	1,010
Reinspections	6,585	5,524	Court cases	25	22
Legal notices served	423	311	Fines	\$35	0

BACTERIOLOGICAL LABORATORY.

	June.	July.
Examinations for diagnosis and release:		
Diphtheria	1,169	994
Tuberculosis	247	272
Typhoid	57	59
Gonorrhea	573	604
Gonorrheal ophthalmia	57	36
Syphilis	1,029	910
Other examinations	† 22	* 22
Bacteriological examinations of milk	677	614
Bacteriological examinations of ice cream	170	66
Examination of rats	1,104	691
Special K. L. examinations	0	732

* Malaria, 7; feces for ova, 1; culture for virulence, 1; dogs for rabies, 3; cheese for pathogens, 1; meat for toxin, 3; smear for gonococci, 1; smear for T. B., 1; rice for organisms, 1; blood for paratyphoids, 2; dark field examinations, 1.

† Malaria, 8; dark field, 2; intestinal mucus for T. B., 1; cultures for virulence, 3; cream for bacterial count, 1; culture for Vincent's, 1; genito-urinal T. B., 6.

VITAL STATISTICS, JULY, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JULY, 1922,
WITH COMPARATIVE FIGURES FOR JULY, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	733	746	-13	11.51	11.81	-.30
Nonresidents deducted.....	608	594	+14	9.55	9.41	+.14
By AGE:						
Under one year.....	105	108	-3	1.65	1.71	-.06
One year to four years, inclusive.....	39	58	-19	.61	.92	-.31
Sixty years and over.....	253	232	+21	3.97	3.67	+.30
By SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	34	37	-3	.53	.58	-.05
Arterio-sclerosis.....	36	34	+2	.56	.53	+.03
Heart disease.....	92	98	-6	1.44	1.55	-.11
Nephritis, chronic.....	51	28	+23	.80	.44	+.36
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,544	1,541	+3	24.25	24.41	-.16
b. Registered stillbirths.....	47	57	-10	.74	.90	-.16
Stillbirths per 1,000 births and stillbirths.....				29.54	35.66	-6.12
c. Deaths of mothers from causes incident to childbirth.....	8	17	-9	.12	.26	-.14
Deaths of mothers per 1,000 births and stillbirths.....				5.03	10.63	-5.60
d. Deaths of children in first year of life...	105	108	-3	1.65	1.71	-.06
Deaths in first year per 1,000 live births.....				68.0	70.08	-2.08
VIOLENCE:						
Accidents.....	50	42	+8	.78	.66	+.12
Homicides.....		3	-3		.04	-.04
Suicides.....	9	13	-4	.14	.20	-.06
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	7	5	+2	.11	.08	+.03
Broncho-pneumonia.....	19	23	-4	.30	.36	-.06
Cancer.....	84	82	+2	1.32	1.29	+.03
Cirrhosis of the liver.....	4	2	+2	.06	.03	+.03
Diabetes mellitus.....	10	14	-4	.16	.22	-.06
Diarrhoeal diseases, children under two years of age.....	17	18	-1	.27	.28	-.01

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON.—Concluded.

		CASES AND DEATHS.					
		ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
		1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:							
Anterior poliomyelitis.....	Cases...	3	7	—4	.05	.11	— .06
	Deaths..	1	1	—	.01	.01	—
Cerebro-spinal meningitis.....	Cases...	1	5	—4	.01	.07	— .06
	Deaths..	—	2	—2	—	.03	— .03
Diphtheria.....	Cases...	188	161	+27	2.95	2.55	+ .40
	Deaths..	6	11	—5	.09	.17	— .08
Influenza.....	Cases...	—	—	—	—	—	—
	Deaths..	1	—	+1	.01	—	+ .01
Measles.....	Cases...	319	263	+56	5.01	4.16	+ .85
	Deaths..	3	7	—4	.05	.11	— .06
Pneumonia (lobar).....	Cases...	25	21	+4	.39	.33	+ .06
	Deaths..	17	13	+4	.26	.20	+ .06
Scarlet fever.....	Cases...	77	56	+21	1.21	.88	+ .33
	Deaths..	2	3	—1	.03	.04	— .01
Tuberculosis (pulmonary).....	Cases...	158	180	—22	2.48	2.85	— .37
	Deaths..	58	63	—5	.91	.99	— .08
Tuberculosis (other forms).....	Cases...	23	25	—2	.36	.36	—
	Deaths..	6	8	—2	.09	.13	— .04
Typhoid fever.....	Cases...	9	8	+1	.14	.13	+ .01
	Deaths..	2	2	—	.03	.03	—
Whooping cough.....	Cases...	133	33	+100	2.09	.52	+1.56
	Deaths..	—	1	—1	—	.016	— .01

DEATHS AND DEATH RATES FOR CERTAIN CITIES, JULY, 1922.

CITY.	Popula- tion Esti- mated July 1, 1922.	DEATHS DURING WEEK ENDING					DEATH RATES DURING WEEK ENDING				
		July 1.	July 8.	July 15.	July 22.	July 29.	July 1.	July 8.	July 15.	July 22.	July 29.
Boston.....	764,017	178	180	179	174	152	12.1	12.3	12.2	11.9	10.4
Bridgeport, Conn..	143,555	19	18	23	20	33	6.9	6.5	8.4	7.3	12.0
Cambridge.....	110,944	28	24	22	17	31	13.2	11.3	10.3	8.0	14.6
Fall River.....	120,790	26	31	23	26	40	11.2	13.4	9.9	11.2	17.3
Lowell.....	114,423	26	23	26	27	30	11.8	10.5	11.3	12.3	13.7
New Bedford.....	127,542	25	15	27	12	17	10.2	6.1	11.0	4.9	7.0
Providence, R. I..	241,011	51	42	46	51	51	11.0	9.1	10.0	11.0	11.0
Springfield.....	140,052	26	21	23	19	20	9.7	7.8	8.7	7.1	7.4
Worcester.....	188,449	37	40	39	39	40	10.2	11.1	10.8	10.8	11.1

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex.
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts	
Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday, Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population 757,634			
Live Births 19,397	Birth rate (live births)	25.60	
Deaths 10,217	Death rate	13.48	

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

DO NOT DESTROY.

When you have no further use for this
Bulletin give it to someone else.

1559

MONTHLY BULLETIN

HEALTH DEPARTMENT

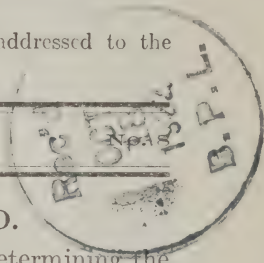
CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, AUGUST, 1922.



A NEW NUTRITIONAL STANDARD.

Attempts to devise rule of thumb methods for determining the state of bodily nutrition and the dietary needs of individuals have produced some curious results. One recent scheme is especially noteworthy by reason of its ingenuity. It originated with Von Pirquet, who takes as what might be called a nutritional basis the computed absorptive area of the intestines. The length of the intestine is assumed to be ten times the height of the person measured in a sitting position. The circumference of the intestine varies, of course, according to its fullness, but its mean circumference is estimated to be one-tenth of the height measured in the sitting position. Whence if H is the height of the person and 10H the length of the intestine, the area of the intestine is:

$$10H \times \frac{H}{10} = H^2.$$

Moreover the height, expressed in centimeters, raised to the third power (H^3) is equal to P (ten times the weight of the body), therefore, the relation between the weight, the height in a sitting position and the intestinal area may be formulated as follows:

$$H^3 = P.$$

$$H = \sqrt[3]{P}.$$

Intestinal area = $H^2 = P^{\frac{2}{3}}$: Whence the state of nutrition is represented by the quotient. This formula, taken to express a state of good nutrition, is designated by Von Pirquet by the *Pedelidisi*, made

up of the initial letters of the Latin phrase: *Pendus decies linearis division sedentis altitudo*. For nursing babies and for adult men the quotient should be about 100. For growing children about 94.5. The extreme variations run from 81 to 109. A quotient above 100 indicates a state of over nutrition; a quotient below 94.5 indicates a state of under nutrition. For example, suppose the height of a child in a sitting position is 60 cm. and its weight 19,300 kg.

$$\text{Pedelidisi or nutritional index} = \frac{\sqrt[3]{10 \times 19,300}}{60} = \frac{57.8}{60} = .963$$

Diagnosis nutrition normal.

Von Pirquet uses this scheme to construct a nutritional scale for practical use. The nutritional value of foodstuffs is expressed in terms of a unit called a Nem, the word being made up of the initials of the words *Nahrung, Einheit* and *Milch*. The unit Nem is a gram of milk of which a liter is capable of developing 667 calories. From the Nem are formed multiples, decanem, ectonem, etc., and subdivisions decinem, etc., just as in the metric system of weights and measures. The food necessary for a healthy body corresponds to a Nem per square centimeter of intestinal surface. The amount necessary for a person is figured to be the whole intestinal area or $H^2 \times \text{Nem}$, or expressed in another way $P^{2/3} \text{ Nem}$ ($= \sqrt[3]{P^2} \text{ Nem}$). For a man in repose the minimum requirement is taken to be $0.3 \text{ Nem} \times H^2$. Ten parts per hundred of the diet, expressed in Nems (not in weight) should be furnished in protein substances, with a minimum a trifle lower and a maximum of 20 parts per one hundred.

THE GEORGE ROBERT WHITE FUND AND NEW HEALTH UNIT IN BOSTON.

"For the use and enjoyment of the inhabitants of the City of Boston," the late George Robert White of Boston willed to the city considerable of his valuable property to be held as a permanent charitable trust fund, the net income of which is to be used for "creating works of public utility and beauty."

As a result, therefore, of the foresight, civic pride, and unselfishness of the late George Robert White, Mayor James M. Curley and a committee formed by him under the provisions of the will have recommended the establishment of a health center, or health unit, as a work of public utility for the use and enjoyment of the inhabitants of the city, as described in Mr. White's will. The committee has selected that portion of the city where such a health center would be of

the greatest use, and has decided upon a site upon which is now located the discontinued harbor police station building, on the corner of Battery and Commercial streets, in the North End. The 1920 United States Census figures give as the population of Ward 5 of Boston,—the major portion of the inhabitants of which reside in the North End,—63,267. The North End (Ward 5) comprises 750 acres of land, and 84 persons reside in the ward per acre. Under the old ward lines, which more closely identify the sections with the wards, the population of this section of the city was exceeded only by two wards; these were included in the Dorchester district of Boston, where there is much more land area, and consequently less people to the area and less congestion. It would appear, then, that the section of the city selected as that in which a health center would be of benefit to the most people is the North End. The present building will be reconstructed or remodeled, if the old police station building will permit of economic remodeling, so as to afford quarters for those agencies interested in public health education and promotion. In an establishment of this kind it is very necessary that such agencies as are best adapted and equipped for the carrying on of the work incidental to a health center have not only suitable and convenient quarters for administrative operation, but be housed together under one roof for the purpose of co-ordination and co-operation of effort. The needs of the people whom the center will serve can best be attended to if all such agencies and their resources are available to the people at one time and place.

From the standpoint of health education, the establishment of health centers has long been recognized as one of the best means for inculcating in the people of the community the need for sanitation and care of the health, having in mind always the present day slogan of curative medicine, prevention rather than eradication after prevention has either been ignored, carried out disinterestedly or unsuccessfully. The success which has been attained in the operation of the present health unit, established and conducted by the city under municipal appropriation under the direction of the city Health Department, augurs well for the future success of the contemplated unit in the North End established through the financial medium of the George Robert White Fund. While the care and maintenance of the unit, once established, is a financial obligation on the City of Boston, yet let it not be forgotten that to the generosity of the late George Robert White is the credit due for the initial step in the establishment of such a public utility, because the present cost of labor and materials renders it almost prohibitive for the City of Boston, with the many demands on its financial resources, to undertake the expenditure of money for the erection of new buildings. But with

the money for the establishment of such a building, or the remodeling of an existing building, already assured through such a trust fund, the city can then with less monetary stringency appropriate sufficient money to enable the added function to be economically and satisfactorily carried on.

It is not to be doubted for a moment that the new health center, when in operation, will bring as good results from the standpoint of public health education and promotion as has the present center since its establishment in 1917. It is not to be doubted, also, that the successes to be met with in this function of municipal administration will show itself to such an extent that the continued establishment of health centers in other sections of the city as the need presents itself will be a matter of logical and economical occurrence.

FOOD IDIOSYNCRASY.

In recommending a diet especially for those who show evidence of mal-nutrition the possibility of idiosyncrasy to certain articles of food is always to be kept in mind. Sensitivity to the protein of such ordinarily wholesome articles of food as eggs or milk is by no means uncommon. An aversion of a young child to any common article of food should always arouse suspicion of such an idiosyncrasy. Skin tests of reactions to food proteins are very easily made. To simplify testing, the combined proteins of a number of different foodstuffs, *group allergens* as they are called, are now available. For instance, by one test it is now possible to test sensitivity to cabbage, celery, lettuce, onion and spinach. If a positive reaction be obtained the offending foodstuff or foodstuffs may then be identified by testing separately for each. If the reaction be negative, sensitivity to the whole group is thus excluded by a single test.

IMMUNIZATION AGAINST RABIES.

Rabies is becoming more and more common in this country, with consequent increasing danger both to animals and human beings. The danger to both may be prevented by having dogs immunized against rabies. This may be accomplished by injecting prophylactic doses of anti-rabic virus into the dog, a very simple procedure, which will be done by any veterinarian at a nominal cost and which produces no troublesome or harmful results in the dog. A dog thus treated will not develop rabies even if bitten by a rabid dog and consequently the owner also protects himself and his family against the possibility of infection.

TAKE CARE OF YOUR TEETH.

The National Safety Council with its issue of the *National Safety News* for September, 1922, has issued a poster drawn in the form of a newspaper cartoon. It depicts the ordinary man seated as a customer, at a lunch counter, partaking of some soup, while the chef stands nearby. The customer makes an exclamatory ejaculation complaining about a fly in his soup, and the colored chef, in the usual cheerful manner of his kind, hopes that the fly "drowns hisself!" In the lower corner of the cartoon is a portrayal of the customer in the hands of a dentist who exclaims, "Look at his teeth!" The teeth are shown to be in a highly deplorable condition of decay. The moral of the story in the picture-cartoon seems to be clearly, first, that when one grumbles at what enters one's mouth, as food, one should bear in mind that the mouth should be in a clean, sanitary condition; and, second, that the germs of decaying teeth are just as harmful to the stomach as foreign matter not intended for food consumption, and just as liable to promote contagion when the mouth containing decayed teeth is in contact with dishes and eating utensils that are used in common, after washing, of course, by restaurant patronizers.

Like the slogan of the railroad transportation company, in its co-operative efforts to reduce highway accidents to a minimum, that train time is any time, it might well be said that the time to attend to the teeth is all the time. Persons who have decayed teeth should make it as much a part of their life to have these decayed teeth cared for by a responsible dentist as they do the matter of securing proper sleep. The element of false economy enters into a situation like this, too, when it is considered that the person of average income and responsibility postpones a necessary visit to the dentist because of the attendant expense involved. But later, when because of severe pain, or extreme discomfort through tooth decay, the same person will make a tardy visit to the dentist, and because of his delay undergo much greater expense than he would have undergone had he paid attention to his teeth in the first instance. So, if you postpone attention to your teeth you lose in two ways. You lose money because of the delay, and you lose comfort because of the continued decay of the teeth up to the point where it becomes manifestly apparent that you are compelled to seek the services of a dentist. In addition you may lose the tooth. Is it not, then, profitable for one to seek early reparative attention to faulty teeth? Most assuredly it is.

Now, let us see how co-operation works out in a case like this. The little boy or girl attending school is active, full of life and energy

and, therefore, eats heartily and often, under the guidance of his parents. Suppose that in spite of constant attention to the cleaning of his (or her) teeth there appears a slight decaying of one or more of the teeth. And suppose that this slight decaying passes unnoticed. Is it not true that that decay, slight at first, will, in the course of time, become a source of further decay that, starting in one tooth, may spread to other teeth and cause a lamentable, diseased condition of the mouth? And all of this could have been prevented by seeking early reparative measures of protection. So, then, it is the duty of the parent to be as consistent in the matter of having the teeth of the child examined and repaired, when necessary, as they are in the matter of seeing that the child has plenty of rest, exercise, food and sleep. Where the child may be uncomfortable because of tooth decay, he cannot have that discomfort removed through the services of a competent dentist without the help of his parent.

Then, the adult, too, should consider the care and attention of the teeth from a personal, even selfish, point of view. Does not your association with men and women, in business, social and religious life, call for a certain respectable personal appearance? Does not the condition of the mouth reflect the care and attention which the individual gives himself generally? And does not the care and attention which an individual gives himself reflect, in some manner, the attitude of that individual towards others? An affirmative answer in each instance seems to be called for. In order that your personal appearance may reflect credit upon yourself and your attitude toward your neighbor, should you not take it upon yourself to see that the dentist examines your teeth two or three times a year, regularly, and more often if necessary? A visit merely for examination of your teeth by the dentist may mean nothing more than the welcome information that your teeth are in perfect condition. The charge for such an examination will then be slight in comparison with the charge for an examination resulting in the discovery of neglected teeth requiring treatment over a continued period to insure reparation.

The personal "you" in this discussion does not mean that every person, young or old, personally or through his counselors and advisors, is neglectful of his teeth. The modern tendency of preventive medicine seems to be as the term implies, prevention, rather than cure after prevention has been neglected. The standards of sanitation, generally, today are impressed upon the public, consciously or otherwise, at every turn. And that impression manifests itself when in the course of personal inspection one discovers that his teeth demand attention, or might demand attention if

neglected, and forthwith the family dentist is sought for advice. And the average individual makes this personal inspection pretty regularly.

Remember, that if you neglect a decaying tooth, you are neglecting your personal comfort, your pocketbook and your personality. Do not be neglectful.

TYPHOID FEVER NESTS.

During the past few years it has become a more common occurrence than formerly for the Boston Health Department to discover nests of typhoid fever in the city in one of the following ways.

A death certificate signed by a physician who gives the cause of death as typhoid fever is presented to the Health Department and a burial permit requested. It is at once noted that the case of typhoid fever has never been reported to the Health Department as required by law. In such an instance the physician will usually be found to be on the staff of one or another of the Boston hospitals and investigation will show that the deceased has been a patient in the hospital perhaps from one to four weeks and that his temperature chart for the first forty-eight hours after his admission was alone sufficient to justify a suspicion of typhoid fever. Investigation at the residence of the deceased will disclose other unreported cases of typhoid fever, sick or convalescent, in the family, a physician in attendance, often previous attendance by other physicians, and a history of a household spread of typhoid fever which clearly points to successive contact infections of one member of the family after another.

Or it may be that it is not a hospital but a private practitioner who may finally report typhoid fever in a family which has long been under his care.

When called on to explain failure to report cases of typhoid fever promptly to the Health Department, both hospitals and private practitioners are accustomed to plead difficulty of diagnosis with a good deal of talk about inability to get positive widal reactions. How this plea may be worked is shown in the following specific instance: On August 4, a local hospital reported the recent admission of a child ill with typhoid fever. This report led to the discovery by the Health Department that the family had been ill with typhoid in their home since May. This first case developed the first of May in a boy who had apparently picked up the disease somewhere away from home. About two weeks later the father, who was employed in the milk business, came down with the disease. The mother, another boy, and then finally, the little girl who was sent to the hospital, were successively stricken. The family were attended in their home from

the beginning by a physician who enjoys a good professional reputation and who has a large practice. He states that clinically the cases were all typical typhoid fever from the first, but that repeated specimens sent into the Boston Health Department laboratory were reported negative as to a widal reaction. A prominent local physician was called in as a consultant and as a result of his advice that the attending physician was not justified in calling the case typhoid fever in the absence of a positive widal reaction, the Health Department was not notified of the cases, in spite of the evidence of the communicability of the disease. It may be stated that the records of the Health Department laboratory show that at an interval after the onset of the disease sufficient to lead one to expect a positive widal reaction, specimens were submitted to the laboratory in the cases of three members of the family and that the laboratory returned negative reports.

For various reasons above mentioned the Health Department is discovering when it is too late that with a physician in attendance from the start one member of a family after another has become infected with a disease clinically indistinguishable from typhoid fever. This has happened not merely once but repeatedly. For the reasons mentioned, in a city which boasts of its opportunities for a medical education, the Health Department does not know how many unreported cases of typhoid fever there may be in the city at the present time and to what extent the health of people may thereby be jeopardized.

A municipal health department finds it a part of its regular work to quietly clean up messes resulting from diagnostic errors in hospital and private practice, and it would appear from the daily experiences of this office that there are two important principles which present day medical education is failing to teach. One is that the spread of a communicable disease is not going to be checked if one waits until a positive diagnosis can be made before taking effective means to prevent its spread. It makes no difference whether clinical symptoms or laboratory reports are relied on to establish a diagnosis. It also makes no difference whether the disease be typhoid fever, smallpox, diphtheria, scarlet fever, measles or whooping cough, or any other communicable disease.

The other fundamental which our daily experience leads us to believe to be not sufficiently appreciated is that when a laboratory report is inconsistent with the clinical evidence in any case, the clinical evidence should not be discarded, but the laboratory report questioned. If a physician will make a regular practice of sending specimens taken at the same time and in the same manner to four different laboratories, he will find that he will receive a certain pro-

portion of inconsistent laboratory reports, whether the specimens be blood for the Widal or the Wassermann reaction, smears for evidence of gonorrhœal infection, or swab cultures for Klebs-Loeffler bacilli, or specimens submitted for any purpose whatever. It may be that inconsistent or erroneous reports are the fault of somebody in the laboratory, or of the physician who sends in the specimen, or perhaps a consequence of the falsity of some fundamental hypothesis on which the laboratory procedure, or even present day bacteriology itself, has been built up, but the practical fact always to be reckoned with is that laboratories do return negative reports when positives are to be expected and also return positive reports when, on theoretical grounds, negatives are to be expected. To those who have acquired the habit of looking to the laboratory as a means of diagnosis, the procedure above referred to is recommended,— the practice of always sending portions of the same specimen to four different laboratories. The results of such procedure will at least tend to jolt a habit of blind reliance on laboratory reports.

SOME FACTS ABOUT RABIES.

Rabies was a recognized disease of animals and human beings before the Christian era. It was known that the disease was spread by the bite of a rabid animal and the cauterization of the wound with a hot iron was the means employed to prevent infection. A similar procedure is followed today in the treatment of the wound, but strong fuming nitric is preferred to everything else for the purpose of cauterization. Common antiseptics like carbolic acid, iodine or nitrate of silver are regarded as of little value for this purpose.

As to the identity of the actual infecting agent which causes rabies we are still in the dark, but we have learned much about the disease and to Louis Pasteur, who has taught us so many things about other diseases also, the world is indebted for our present knowledge of the means of preventing rabies. We know that the infection, whatever its exact nature may be, travels along the course of nerves to the brain. We know that the disease produces microscopic changes in the brain, called from the name of the discoverer "Negri bodies." The "Negri bodies" appear at a certain stage of the disease and if they can be seen in the brain of a suspected animal it is known that the animal had rabies. If they cannot be seen it may mean that the animal had rabies but not in the stage in which Negri bodies can be seen. In this event it is customary to inject some of the brain into another animal in the laboratory and wait and see if this other animal develops rabies. This may mean a wait of a month or more.

If a person be bitten by a rabid animal the disease may possibly develop in as short a time as two weeks or even ten days, but it is

usually one or two months and maybe a year. The length of time before the disease develops depends on where the person is bitten and the character of the bites. Bites involving nerves or about the head or face are not only dangerous but favor the rapid development of the disease. Bites where nerves are less numerous and bites through clothing are less serious. Persons bitten through clothing by a rabid dog often do not develop the disease even if no means have been taken to prevent it. Dogs bitten by a rabid animal usually show symptoms of rabies in about two weeks, but even in dogs the disease may be months in developing.

Pasteur showed that the development of rabies could be prevented by injecting into infected animals or human beings gradually increasing doses of an emulsion of the dried spinal cords of rabbits infected with the disease. The anti-rabic virus now prepared by official laboratories and commercial concerns for administration to human beings to prevent rabies is prepared in this way.

REGULATIONS FOR THE REMOVING OR TRANSPORTING OF GARBAGE, OFFAL OR OTHER OFFENSIVE SUB- STANCES THROUGH THE STREETS OF BOSTON.

Pursuant to the provisions of chapter 358, Acts of 1921 (chapter 111, section 31-A, General Laws), it is hereby

Ordered, That any person desiring to remove or transport garbage, offal or other offensive substances through the streets of Boston shall first register with the Health Department of the City of Boston, pay a fee of \$2, and comply with the following rules and regulations relative thereto:

1. Any person so registered for the removing or transporting of garbage, offal or other offensive substances through the streets of the City of Boston, shall use vehicles in good repair, with water-tight and tightly covered receptacles. The vehicles and receptacles used shall be kept in cleanly condition, satisfactory to the Health Department; and all such receptacles shall be kept covered except at such times as the garbage, offal or other offensive substances are being placed therein or removed therefrom.

2. Every person removing garbage, offal or other offensive substances shall designate to the Health Department the places (street and number) from which garbage is collected or is to be collected.

3. Collections shall be made before 8 a. m. daily, except Sundays and holidays, from all hotels, restaurants, stores and markets.

4. No person shall collect, remove, or transport garbage, offal or other offensive substances in that part of the city proper lying north and east of Massachusetts avenue from premises other than

specified in paragraph 3, except on Mondays and Thursdays, and only provided said collection, removal or transporting of garbage, offal or other offensive substances is made or done before eight o'clock in the morning.

5. Any person removing garbage, offal or other offensive substance in parts of the city other than designated in paragraph 4 shall so remove garbage, offal or other offensive substances at least twice in every week, and may so remove garbage, offal or other offensive substances on any day of the week, except Sundays, and at any hour of the day.

6. Any person collecting, removing or transporting garbage, offal or other offensive substances from any place or building shall collect and remove all the garbage, offal or other offensive substances and shall not select or separate said garbage or offal, but shall remove any and all the substances desired to be removed or collected by the person or householder which has been deposited in said person's or householder's garbage receptacle or container.

7. Any person collecting, removing or transporting garbage, offal or other offensive substances through the streets of Boston shall designate to the Health Department the depository used by him for such garbage and offal collected by him and shall further inform the Health Department for what purpose the said garbage or offal is collected.

8. Any person collecting, removing or transporting garbage, offal or other offensive substances shall submit for the examination by the Health Department monthly, or as often as may be required by the Health Department, all vehicles and receptacles used by him in collecting, removing or transporting said garbage, offal or other offensive substances.

9. Every vehicle used by a person for collecting, removing or transporting garbage, offal or other offensive substances shall have affixed to such vehicle a registration number of block letter type at least 3 inches high, issued by the Health Department, which number shall be displayed in a prominent place on said vehicle.

10. Whoever violates any of the foregoing regulations shall be punished by a fine not exceeding fifty dollars for each such violation.

NOTES.

Bernouille, the renowned mathematician, estimated that within a period of twenty-five years during the eighteenth century 15,000,000 people died of smallpox.

"The aim of hygiene in general is to render growth more perfect, decay less rapid, death more remote and life more vigorous and successful."

NOTES ON DIPHTHERIA.

Before 1826 not inaptly called "angina."

Disease traced back eighteen centuries.

1894 antitoxin discovered (by the German Behring and Japanese Kaitasota).

Prevalent in autumn.

Marked cyclical tendency. Maximum every five or ten years.

Deaths may occur from —

1. Paralysis of heart,
2. Degeneration of kidneys,
3. Nephritis,
4. Involvement of larynx or air passages through functional disturbance of respiration, or
5. General infection.

18 per cent of those who recover from first dangers of diphtheria suffer diphtheretic paralysis.

Diphtheretic cases are particularly liable to measles and scarlet fever, and conversely, scarlet fever cases are liable to diphtheria.

In Chicago in ten years preceding antitoxin treatment death rate was 124.5 per 100,000 population.

In the eight years following it was only 45.5 per 100,000 population.

BOSTON.

10 Years.		Average Death Rate per 100,000 Population.	10 Years.		Average Death Rate per 100,000 Population.
1871-1880	.	119.4	1891-1900	.	97.1
1881-1890	.	121.5	1901-1910	.	32.7

		Yearly Death Rate per 100,000 Population.			Yearly Death Rate per 100,000 Population.
1911	.	18.0	1917	.	37.2
1912	.	14.2	1918	.	29.0
1913	.	21.2	1919	.	20.4
1914	.	22.5	1920	.	18.6
1915	.	29.1	1921	.	18.4
1916	.	24.7			

From 1871 to 1921, inclusive, 18,439 persons died from diphtheria and croup in Boston. This figure represents the population of the city of Melrose.

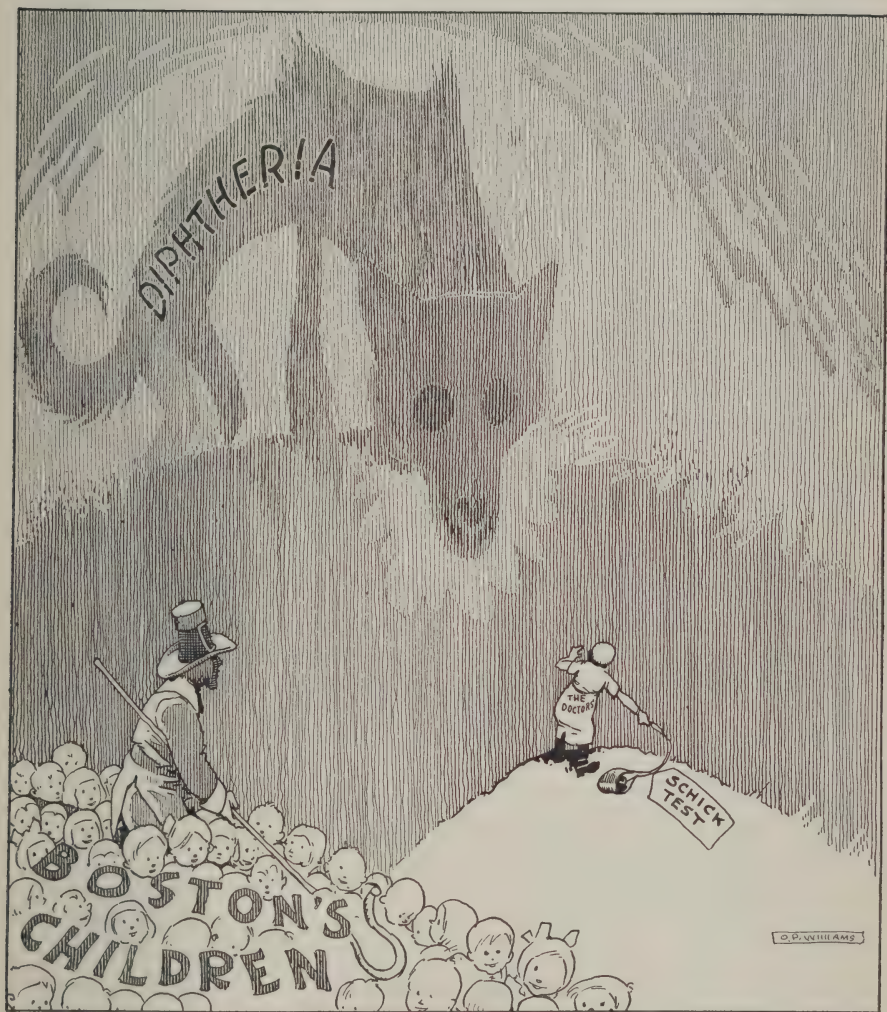
361 deaths a year average for 51 years.

1880, year of highest mortality: 774 deaths for rate of 213 per 100,000.

1881, 802 deaths for rate of 201 per 100,000.

1912, year of lowest mortality, rate of 14.2 per 100,000; 102 deaths.

PROTECTING THE FLOCK.



[Courtesy of the *Boston American*.]

Schick Toxin-Antitoxin Activities from May 6, 1922, to September 1, 1922.

INSTITUTION.	Number Schick Given.	Number Read.
Carney Hospital.....	6,730	5,839
Health Unit.....	1,596	1,370
East Boston Health Unit.....	1,266	1,152
Angel Guardian Home.....	674	633
St. Gregory's School.....	385	385
U. S. Veterans Hospital Number 44.....	342	320
St. John's School.....	322	322
St. Anthony's School.....	310	303
St. Vincent's Home.....	178	176
Long Island Hospital.....	106	101
Little Wanderers' Home.....	78	73
Daly Industrial Home.....	71	70
Massachusetts General Hospital.....	67	24
New England Peabody Home.....	47	47
Children's Hospital.....	46	29
Italian Home.....	27	27
Martin Luther Home.....	27	27
Totals.....	12,272	10,898

Reactions.	Toxin-Antitoxin Injections.
Positive 4,509	First injection 3,944
Positive combined 558	Second injection 2,818
Negative 4,567	Third injection 2,046
Pseudo 1,264	Fourth injection 95
Total 10,898	Total 8,903

Cultures Taken From

Positive Schick reactors	1,684
Negative Schick reactors	437
Total	2,121

Results From

Positive Schick reactors pos.	103
Negative Schick reactors neg.	20
Total	123
Positive Schick reactors neg.	1,581
Negative Schick reactors neg.	417
Total	1,998

Virulence Tests From

Positive cultures	90
All negative.	

The Health Department will Schick and immunize all children of pre-school age that are referred by the family physician or parents.

Others may be tested and immunized in school by application to Dr. Devine (in charge of medical inspection of schools).

There are at present the following clinics for public testing and immunizations; Boston City Hospital, Homœopathic Hospital, Harrison avenue, Massachusetts General Hospital, Carney Hospital, Children's Hospital.

All applications for Schick and immunizations to be performed by Health Department should be made to Dr. John A. Ceconi, Health Department, Boston, Mass.

The clinics at the various institutions are as follows:

Carney Hospital, Tuesdays and Fridays at 2 p. m.

Children's Hospital, Wednesday at 9.30 a. m.

Massachusetts General Hospital, Monday and Friday at 9.30 a. m.

Health Unit, Blossom street, Tuesday and Saturday at 9.30 a. m.

Boston City Hospital, Tuesdays and Saturdays, 11 to 12 (Medical Out-Patient Building).

A SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of the latest survey made of market milk sold in Boston by dealers and chain stores. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent of butter fat.

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Alden Bros. Company.....	12.20	3.73	89
Anderson, Oscar A.....	12.61	4.03	757
Antetomoso, Peter.....	11.64	3.16	20
Barron, Clarence W.....	14.43	5.25	6
Barrow, Fred G.....	12.23	3.66	24
Barry, Michael F.....	12.20	3.78	707
Bemis, Henry E.....	12.04	3.55	70
Bergmann, John H.....	12.47	3.86	46
Bowditch, E. F., Estate.....	12.08	3.72	155
Brandley, Thomas J. and P. J.....	12.11	3.58	18
Brandon Farms Milk Company.....	12.05	3.50	270

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Brookdale Creamery.....	11.86	3.30	365
Burns, James.....	12.11	3.60	56
Casey, James D.....	12.08	3.41	572
Cashin, James F.....	12.35	3.86	75
Cataldo, Nunzio.....	11.82	3.46	20
Chapin, George L.....	12.26	3.51	24
Childs Brothers.....	12.25	3.70	109
Cohen, Benjamin.....	12.45	3.77	52
Connolly, Michael.....	12.60	3.85	1,000
Corkery, John H.....	12.36	3.80	136
Creeden & Crowell.....	12.36	3.91	153
Cummings, F. S., Company.....	11.88	3.46	25
Cusick, William H.....	12.21	3.85	721
Deerfoot Farm Milk Company.....	12.27	3.75	16
Denehy, Timothy.....	12.22	3.65	76
Driscoll, W. B., Company.....	12.16	3.71	19
Duggan Bros.....	12.30	3.73	97
Edgerly, Frank S.....	12.15	3.75	966
Elm Spring Farm Company.....	12.34	3.76	44
English, John.....	12.61	3.86	28
Ferguson, Malcolm D.....	12.01	3.53	153
Garvin, Charles E.....	13.25	4.46	184
Giroux, J. E., & Co.....	12.24	3.75	25
Griffin, Joseph L.....	12.19	3.70	14
Griffin, Thomas J.....	12.29	3.68	224
Gushee, W. S. & C. W.....	12.12	3.45	16
Hagar, J. M., & Sons.....	12.00	3.51	229
Hancock, T. G., & Co.....	12.28	3.86	398
Herlihy Brothers.....	12.32	3.70	44
Hickey, Martin J.....	13.02	4.23	34
Holden, John E.....	12.43	3.86	16
Hood, H. P., & Sons.....	12.04	3.68	39
Jones, W. T., Company, Inc.....	12.17	3.68	171
Kendall Brothers.....	12.00	3.45	581
Kennedy, Robert, Jr.....	12.35	3.56	77
Kingston, Samuel.....	12.61	3.83	18
Klawe & Freeman.....	13.02	4.18	364
Knapp, George J.....	12.25	3.70	217
Lang, Michael.....	12.19	3.50	35

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Larkin, Patrick.....	12.78	4.15	80
Larsaon, Charles.....	12.04	3.55	19
Lesser, Joseph.....	12.22	3.63	25
Lincoln Farms, Inc.....	12.38	3.60	180
Lubin, Felix.....	12.02	3.53	37
Lyndonville Creamery Association.....	12.30	3.53	433
Magee, Nellie A.....	11.88	3.25	24
Manning, Peter E.....	12.34	3.56	53
Maple Farm Milk Company.....	11.86	3.50	185
McAdams, John F.....	12.23	3.66	466
McKernan, John.....	12.37	3.75	58
Mixer, Farm.....	14.59	5.15	18
Moore, Peter.....	12.08	3.60	41
Morgan, George D., & Sons.....	11.28	3.38	47
Munchbach, George.....	12.20	3.46	62
New England Consolidated Farms.....	12.30	3.56	19
Nelson & Bennison.....	12.11	3.56	56
Newton & Pope.....	12.52	3.70	81
Noble, W. F., & Sons.....	12.65	4.03	19
O'Shaughnessy, Patrick.....	12.05	3.63	454
Plymouth Creamery System.....	12.15	3.80	144
Pond, Harvey T.....	12.33	3.80	129
Raycraft, Benjamin F.....	12.12	3.63	246
Rayfuse, Lester A.....	11.98	3.83	46
Robbins, Frank E.....	12.20	3.68	22
Robinson, A. J.....	12.32	3.75	102
Robinson, James A.....	12.29	3.90	158
Runkle, John C.....	12.38	3.72	28
Schuster, Adam.....	12.06	3.45	109
Seven Oaks Dairy Company.....	12.20	3.73	318
Shattuck, Milo P.....	12.10	3.60	500
Shick, Jacob.....	12.02	3.46	86
Shick, Mary.....	12.76	3.85	200
Smith & Lynch.....	12.33	3.70	26
Smith, Walter H.....	12.20	3.57	85
Somerset Farms Milk Company.....	13.18	4.53	146
Sterling Farms Milk Company.....	12.22	3.70	38
Stone, Harvey L.....	12.28	3.60	22
Stuart, Wallis E.	12.73	4.05	10

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Sullivan, John D.....	12.56	3.86	19
Sullivan, John L.....	12.06	3.71	68
Toothak Brothers.....	12.36	3.78	89
Turner Centre System.....	12.60	3.90	40
Walker Gordon Milk Company.....	12.43	3.93	48
Ware, George H.....	12.34	3.76	140
Warren, Cornelia.....	13.19	4.40	12
Weiler, E., & Sons.....	13.18	3.76	59
Werner, Ferdinand, Company.....	12.03	3.53	226
Westwood Farms Milk Company.....	12.19	3.63	16
White Brothers.....	12.40	3.86	64
Whiting Milk Companies.....	12.00	3.53	244
Whittemore, W. D.....	12.26	3.75	67
Winer, Morris.....	12.07	3.51	266
Wiswall, Granville A.....	12.20	3.68	18
Wittenberg & Co.....	12.98	4.13	460

CHAIN STORE MILKS.

NAME OF DEALER.	SUPPLIED BY	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	H. P. Hood & Sons, Inc....	12.26	3.61	275
John T. Connor Company.....	Bellows Falls Co-operative Creamery Association.	12.77	4.16	22
Co-operative Grocery Company,	J. M. Hagar & Sons.....	12.29	3.65	86
Economy Grocery Stores.....	Plymouth Creamery Sys- tem, Inc.	12.67	3.85	25
Morgan Brothers Company....	Whiting Milk Companies...	12.04	3.60	96
M. O'Keeffe, Inc.....	J. M. Hagar & Sons.....	12.18	3.68	550

HAY FEVER.

When the pollen of certain plants is blown about by the wind and finds lodging in the nostrils of certain persons who are particularly sensitive to affection, the result is a sickness known as "hay fever."

Hay fever is preventable by the simple expedient of public action to rid the community of all noxious weeds.

SUMMARY OF THE WORK, AUGUST, 1922.

BUREAU OF ADMINISTRATION.

	Aug.	July.		Aug.	July.
Conferences	5	3	Special drafts	2	1
Hearings	1	0	Contracts approved	0	4
Prosecutions ordered	15	15	Personnel:		
Orders	5	4	Appointments	2	6
Lodging houses certified, ...	0	1	Promotions	0	1
Dump applications:			Offensive trades licensed, ...	0	1
Approved	0	4	Forcible removals	3	3
Revoked	0	1	Buildings ordered demol-		
Lying-in hospitals ap-			ished	0	17
proved	0	4			

LICENSES, PERMITS, ETC., ISSUED.

	Aug.	July.		Aug.	July.
Burial permits	958	874	Denatured alcohol li-		
Disinterment permits	12	10	censes	1	5
Milk licenses	203	235	Manicure-massage:		
Peddlers' licenses, general, ...	153	46	Granted	33	34
Hen licenses granted	97	166	Beverage establishments		
Stable permit granted	0	1	licensed	15	28
Stable permit granted			Grease	4	5
conditionally	0	1	Dumps	2	0
			Sundry	12	0

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Aug.	July.		Aug.	July.
Visits by medical inspec-			Vaccination certificates	2	2
tors	836	1,030	Cases brought to Boston		
Deaths investigated	13	13	for treatment	74	33
Vaccination	8	15	Antitoxin administered	14	5

NURSING SERVICE.

	Aug.	July.
Communicable disease visits	1,546	2,049
Babies visited, first visit	1,064	388
Revisits	2,031	2,463

HEALTH UNIT (Blossom Street).

	Aug.	July.		Aug.	July.
Health Department proper:					
Vaccinations				90	5
Vaccination certificates issued				7	5
Cases visited by nurses:					
Communicable diseases				197	141
Complaints made of insanitary conditions				11	55
	Aug.	July.		Aug.	July.
Baby Hygiene Association:			Conferences:		
Babies cared for	341	335	Number	10	7
Babies newly admitted	26	26	Total attendance	440	291
			Home visits by nurses, ...	498	424

	Aug.	July.
Boston Dispensary:		
Calls by district physician from Boston Dispensary	59	62
Consumptives' Hospital Department:		
Calls by nurses in districts	524	779
Instructive District Nursing Association:		
Visits by nurses	1,749	1,729
Jewish Welfare Center:		
Conferences held	*	4
Number of children attending conferences	*	46
Visitors:		
City	3	2
Out of city	2	1
General:		
Number of persons applying for information	316	302
Pre-natal classes	4	4

* Not available.

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Aug.	July.
New reports	2,044	1,329
Stores inspected	3,429	2,677
Sanitary defects remedied	369	317
Complaints at office	65	81
Referred to Sanitary Division	63	37
Milk applications approved	168	159
Street stands inspected	35	34
Peddlers:		
Applications for licenses approved	150	138
Vehicles inspected and approved	905	576
Court cases	6	9
Fines	\$35	\$50

CONDEMNATIONS.

BY REQUEST.

Beef	785 pounds	Cheese	1,064 pounds
Canned goods	21 cases	Jam	2,122 pounds

WITHOUT REQUEST.

Anchovies	100 pounds	Meat (miscellaneous)	70 pounds
Beef	98 pounds	Nuts	133 pounds
Blackberries	1 crate	Plucks	45 pounds
Candy	50 pounds	Poultry	18 pounds
Cheese	679 pounds	Prunes	25 pounds
Chicken	122 pounds	Smoked shoulder	628 pounds
Chocolate syrup	4 gallons	Sheep	69 pounds
Corned beef (canned)	39 pounds	Sweetbread	32 pounds
Eggs	2 cases	Swordfish	15 pounds
Figs	25 pounds	Tomatoes	37 cases
Hamburger	2 pounds	Tongue	6 pounds
Lamb	14 pounds	Tonic	72 bottles
Lard	15 pounds	Veal	1,182 pounds
Lemons	3 dozen	Walnuts	26½ pounds
Liver and sweetbread	6 pounds	Whitefish	4 pounds 7 oz

LIVE STOCK INSPECTION (Brighton Abattoir).

	Aug.	July.		Aug.	July.
Cattle inspected . . .	314	236	Parts condemned . . .	287	259
Calves inspected . . .	113	212	Animals condemned . . .	4	6
Swine inspected . . .	3,940	3,639			

DAIRY DIVISION.

	Aug.	July.		Aug.	July.
Total inspections . . .	1,591	1,149	With milk rooms . . .	232	294
Dairies inspected . . .	476	450	Without milk rooms . . .	244	156
Scoring above 50 * . . .	257	315	Inactive	82	77
Scoring below 50 . . .	219	135	Total cattle inspected . . .	5,980	5,865

* Passable mark.

BUREAU OF MILK INSPECTION

	Aug.	July.		Aug.	July.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,177	1,128	Milk	678	603
Ice cream	13	36	Ice cream	88	24
Milk caps for bacteria . . .	0	0	Court cases	0	10
Milk bottles	0	0	Fines	\$0	\$95
Miscellaneous	5	5			

SANITARY INSPECTION.

	Aug.	July.		Aug.	July.
Original inspections . . .	1,967	1,503	Car reports	487	504
New reports	2,617	2,336	Complaints	1,190	1,010
Reinspections	6,627	5,524	Court cases	15	22
Legal notices served . . .	400	311	Fines	\$2	0

BACTERIOLOGICAL LABORATORY.

	Aug.	July.
Examinations for diagnosis and release:		
Diphtheria	1,368	994
Tuberculosis	208	272
Typhoid	68	59
Gonorrhea	496	604
Gonorrheal ophthalmia . . .	37	36
Syphilis	969	910
Other examinations	† 23	* 22
Bacteriological examinations of milk	647	614
Bacteriological examinations of ice cream	48	66
Examination of rats	819	691
Special K. L. examinations	2,243	732

* Malaria, 7; feces for ova, 1; culture for virulence, 1; dogs for rabies, 3; cheese for pathogens, 1; meat for toxins, 3; smear for gonococci, 1; smear for T. B., 1; rice for organisms, 1; blood for paratyphoids, 2; dark field examinations, 1.

† Malaria, 11; genito-urinary T. B., 4; gelatine for pathogenic organisms, 1; shaving brush for anthrax, 1; spinal fluid for meningitis, 1; salad oil for toxins, 1; nuts for worms, 3; culture for virulence, 1.

VITAL STATISTICS, AUGUST, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING AUGUST, 1922,
WITH COMPARATIVE FIGURES FOR AUGUST, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
* ALL CAUSES:						
Total deaths.....	795	766	+29	12.48	12.13	+.35
Nonresidents deducted.....	646	637	+9	10.15	10.08	— .07
BY AGE:						
Under one year.....	133	151	—18	2.09	2.39	— .30
One year to four years, inclusive.....	58	41	+17	.91	.65	+.26
Sixty years and over.....	258	256	+2	4.05	4.05	—
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	57	56	+1	.89	.89	—
Arterio-sclerosis.....	24	29	—5	.38	.62	— .24
Heart disease.....	109	98	+11	1.71	1.55	+.16
Nephritis, chronic.....	36	34	+2	.56	.54	+.02
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,616	1,764	—148	25.38	27.94	—2.56
b. Registered stillbirths.....	59	68	— 9	.93	1.07	— .14
Stillbirths per 1,000 births and still- births.....				35.22	37.12	—1.90
c. Deaths of mothers from causes incident to childbirth.....	22	5	+17	.34	.08	+.26
Deaths of mothers per 1,000 births and stillbirths.....				13.13	2.73	+10.40
d. Deaths of children in first year of life... Deaths in first year per 1,000 live births,	133	151	—18	2.09	2.39	— .30
				82.30	85.60	—3.30
VIOLENCE:						
Accidents.....	52	31	+21	.82	.49	+.33
Homicides.....	0	2	—2	0	.03	— .03
Suicides.....	5	9	—4	.08	.14	— .06
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	5	2	+3	.08	.03	+.05
Broncho-pneumonia.....	23	25	—2	.36	.39	— .03
Cancer.....	96	90	+6	1.51	1.42	+.09
Cirrhosis of the liver.....	3	4	—1	.05	.06	— .01
Diabetes mellitus.....	20	11	+9	.31	.17	+.14
Diarrhoeal diseases, children under two years of age.....	36	59	—23	.56	.93	— .37

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON AUGUST, 1922.—Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis.....	Cases... 15	14	+1	.23	.22	+ .01
	Deaths.. 3	6	—3	.05	.09	— .04
Cerebro-spinal meningitis.....	Cases... 2	4	—2	.03	.06	— .03
	Deaths.. —	3	—3	—	.05	— .05
Diphtheria.....	Cases... 124	148	—24	1.95	2.34	— .39
	Deaths.. 9	13	—4	.14	.20	— .06
Influenza.....	Cases... 1	1	—	.01	.01	—
	Deaths.. 1	1	—	.01	.01	—
Measles.....	Cases... 120	68	+52	1.88	1.07	+ .81
	Deaths.. 4	2	+2	.06	.03	— .03
Pneumonia (lobar).....	Cases... 27	32	—5	.42	.51	— .09
	Deaths.. 14	10	+4	.22	.16	+ .06
Scarlet fever.....	Cases... 51	54	—3	.80	.85	— .05
	Deaths.. 5	2	+3	.08	.03	+ .05
Tuberculosis (pulmonary).....	Cases... 165	193	+28	2.59	3.02	— .43
	Deaths.. 55	57	—2	.86	.90	— .04
Tuberculosis (other forms).....	Cases... 15	24	—9	.23	.38	— .15
	Deaths.. 5	10	—5	.08	.16	— .08
Typhoid fever.....	Cases... 18	25	—7	.28	.39	— .11
	Deaths.. 1	4	—3	.01	.06	— .05
Whooping cough.....	Cases... 159	50	+109	2.50	.79	+1.71
	Deaths.. 11	2	+9	.17	.03	+ .14

DEATHS AND DEATH RATES FOR CERTAIN CITIES, AUGUST, 1922.

CITY.	Popula- tion Esti- mated July 1, 1922.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		Aug. 5,	Aug. 12,	Aug. 19,	Aug. 26,	Aug. 5,	Aug. 12,	Aug. 19,	Aug. 26,
Boston.....	764,017	169	188	196	170	11.5	12.8	13.4	11.6
Bridgeport, Conn.....	143,555	26	26	28	27	9.4	9.4	10.2	9.8
Cambridge.....	110,944	21	20	17	20	9.9	9.4	8.0	9.4
Fall River.....	120,790	33	27	38	38	14.2	11.7	16.4	16.4
Lowell.....	114,423	29	22	25	25	13.2	10.0	11.4	11.4
New Bedford.....	127,542	29	19	29	23	11.9	7.8	11.9	9.4
Providence, R. I.....	241,011	73	50	48	53	15.8	10.8	10.4	11.5
Springfield.....	140,052	25	28	30	30	9.3	10.4	11.2	11.2
Worcester.....	188,449	39	34	46	38	10.8	9.4	12.7	10.5

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts	
Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday, Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population 757,634			
Live Births 19,397	Birth rate (live births)	25.60	
Deaths 10,217	Death rate	13.48	

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

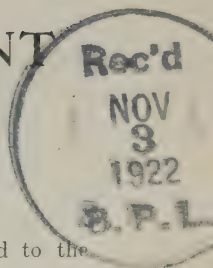
MONTHLY BULLETIN

1559

HEALTH DEPARTMENT CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.



VOL. 11.

BOSTON, SEPTEMBER, 1922.

NO. 9

DANGERS FROM CARBON MONOXIDE POISONING.

The chief sources of danger from carbon monoxide poisoning arise in connection with the exhaust of gases from automobiles and in connection with the household use of illuminating gas. The extensive experiments which have been carried on with a view to solving the ventilation problems of the proposed long vehicular tunnel under the Hudson river in New York have added greatly to our knowledge of the action of carbon monoxide on the human body and have pointed out new ways to avoid the dangerous consequences of exposure to this gas.*

It has been discovered that carbon monoxide does not produce its serious consequences by forming a permanent chemical combination with the hemoglobin as was formerly taught, but virtually acts by preventing the hemoglobin of the blood from taking up oxygen since carbon monoxide has an affinity for hemoglobin about three hundred times greater than oxygen. The experiments indicated that carbon monoxide has no direct poisonous effects on nerve tissue as was formerly supposed, but that its action on the nervous system is nothing but a secondary result of the deprivation of oxygen. The experiments show that when pure air or air rich with oxygen is brought in contact with blood, the oxygen tends, with a fair degree of rapidity, to displace the carbon monoxide from the hemoglobin. Failure of a person to recover after a dangerous exposure to carbon monoxide was shown to be due to lack of oppor-

* A detailed report of these experiments has been published by the Bureau of Mines of the United States Department of the Interior, under the title, "Appendix No. 4, Report of Tunnel Gas Investigations. Problem No. 2, Physiological Effects of Exhaust Gases," Yandell Henderson, and a somewhat less detailed summary of experiments is to be found in the "Journal of Industrial and Engineering Chemistry," March, 1922, or in the "Journal of Industrial Hygiene" of August, 1921, or in the "Boston Medical and Surgical Journal" of August 23, 1922.

tunity of oxygen to come in contact with the hemoglobin rather than from the lack of capacity of the oxygen to displace the carbon monoxide in the hemoglobin. As carbon dioxide acts as a powerful respiratory stimulant, the idea was conceived of using it for this purpose in persons who were suffering from illuminating gas poisoning. It was found that a deeply asphyxiated patient who could be reached within a half hour could be practically freed from carbon monoxide in from thirty to forty minutes by giving him inhalations of oxygen containing 5 per cent of carbon dioxide.

The fatalities from exposure to the exhaust of automobiles in private garages are to be attributed chiefly to the carbon monoxide gas contained in the exhaust. The free gasoline which such exhaust may contain does not appear to be an important factor in poisonings of this sort, although it is to be remembered that the vapor of gasoline is in itself poisonous and quite capable of producing death. Various products, however, sold for use in motor vehicles contain other substances besides gasoline. Among the substances used for this purpose are coal distillates, which will contain substances that have a definite disintegrating effect upon the blood. Viewed, however, entirely from the point of view of danger from carbon monoxide, it is estimated that when an automobile is started running in a garage 10 feet by 10 feet by 20 feet a dangerous concentration of carbon monoxide in the atmosphere of the garage will be produced within three minutes.

Examination of the carburetors of automobiles in connection with the tunnel experiments showed that the dangerous character of the exhaust was increased by a tendency to adjust carburetors to afford the maximum of power rather than to utilize fuel with a view to maximum mechanical efficiency. It would seem that this tendency results in waste of about one third the fuel value of gasoline and consequently increases the toxic character of the exhaust by reason of incomplete combustion.

As might be expected, experiments on human beings show that susceptibility to carbon monoxide or, perhaps more accurately, the capacity to withstand oxygen deprivation varies greatly in different individuals, so that one person may be extremely uncomfortable in an atmosphere containing a proportion of carbon monoxide which would have no appreciable effect on another person.

The absorption of carbon monoxide is naturally, of course, increased by physical exertion or even moderate exercise in a vitiated atmosphere. One result of the experiments was the conclusion that a vitiation, not exceeding four parts of carbon monoxide per ten thousand of air, is allowable as a practical standard in vehicular tunnels.

WHOOPING COUGH.

Whooping cough must be regarded as a serious disease not only in infants but in older children and adults. Most of the reported deaths from the disease are deaths from a complicating bronchopneumonia occurring in children under five years of age but some deaths from the same complication are reported every year in older children and adults. Moreover in both children and adults an attack of whooping cough always prepares the way for other infections which may not give rise to permanent bodily damage but frequently do. Death from a valvular lesion of the heart or from pulmonary tuberculosis should often be credited to an attack of whooping cough years before.

Whooping cough is fairly comparable with diphtheria as a cause of death in Boston. In 1920 the reported deaths directly attributable to whooping cough exceeded the reported deaths from diphtheria and probably the reported deaths from whooping cough this year will equal those from diphtheria. As a matter of fact diphtheria has practically ceased to be a health problem. If a child otherwise normal is attacked by diphtheria the prompt administration of antitoxin virtually assures the child's recovery. Moreover, if parents wish to safeguard their children against a possible attack of diphtheria the toxin-antitoxin method of immunization is available for this purpose.

Deaths from diphtheria have greatly decreased since the introduction of antitoxin. Deaths from whooping cough are showing no tendency to decrease.

Whooping cough is due to an organism known after its discoverers as the Bordet-Gangou bacillus. It infects the bronchial mucous membrane apparently by direct transplantation there of the organism thrown off by the coughing of another person with the disease. There is evidence tending to indicate that it may be as long as two weeks from the time of infection until symptoms of the disease are recognizable. The first symptoms are always a dry, hacking, spasmodic cough which is easily mistaken for an irritation of the throat of no important practical significance. It is, however, in this stage of the disease that the Bordet-Gangou bacilli are to be found in the greatest abundance in the bronchial mucous membrane and the case is the most dangerous to others. It would seem that the Bordet-Gangou bacillus causes trouble chiefly by paving the way for superimposed infections of various sorts and that these latter produce the serious consequences of whooping cough. The latter also apparently destroy the growth of the Bordet-Gangou bacilli so that even by the time the paroxysmal whooping stage of the disease begins the Bordet-Gangou bacilli have not only become less easily discoverable by rea-

son of the abundance of other organisms but have actually begun to disappear. On this fact rests the justification of municipal health officers in regarding the danger to others of a case of whooping cough as practically negligible three weeks after the case begins to "whoop."

The usual history of a fatal case of whooping cough is that an older child in the family picks up whooping cough from his school-mates or street playmates and before it is recognized that he has whooping cough he infects his younger baby brother or sister and the baby dies from the disease.

Isolation of the sick is the means usually employed in our efforts to prevent the spread of whooping cough. Like isolation to prevent the spread of measles it usually fails because it is not put into effect soon enough. Moreover, isolation in whooping cough as usually carried out has another drawback. The one thing that has demonstrated its therapeutic value in mitigating the severity of the symptoms in whooping cough and in preventing complications is fresh out-of-door air. In so far as the isolation of a whooping cough patient means depriving him of the benefits of fresh out-of-door air by so much are his chances of recovery diminished.

We are not yet able to point to methods of preventing or treating whooping cough with the assurance that we can to procedures for controlling diphtheria, but vaccines are available which have been used both for the prevention and treatment of whooping cough. The testimony of those who have employed such vaccines is not conclusive as to their value either in the prevention or treatment of the disease. There are some physicians, however, who are thoroughly convinced that their use of vaccine has been effective in preventing the spread of whooping cough in children's institutions where it has been employed for this purpose. There are those also who believe that they have secured beneficial results from the use of vaccine in the treatment of the disease. Those who believe they have demonstrated the usefulness of pertussis vaccine may be mistaken, but it should be remembered that in a matter of this sort positive testimony even though it be comparatively small in amount is more worthy of attention than any amount of negative testimony. Moreover it may be significant that we find those who believe in the value of pertussis vaccine insisting that the vaccine must be "fresh"; that it be a mixed vaccine, and that it be administered in large amounts. We find some insisting that by "fresh" they mean a vaccine prepared within a week from local cases.

We may reserve the right to question whether we have in the vaccines at present at our disposal the means of controlling whooping cough, but when we find that the school boy has picked up whooping cough in school or in the street and has probably exposed his baby

brother at home to infection, should we not well consider the advisability of treating the baby with a prophylactic dose of vaccine similar in character and dosage to that which others believe they have found efficacious under similar circumstances?

During the past nine weeks there have been reported to this department 380 cases of whooping cough which resulted in forty deaths.

HEALTH UNIT ORGANIZATION AND AUXILIARY SERVICES.

In planning the construction of a health center one must pay particular attention to the community phase of the same and adequately provide for facilities and room for the housing of the various organizations essential for the dissemination of health education in that community where a health center is to be established. In order to properly disseminate health education which has been accepted as the real medicine of today and the future, one needs the assistance and earnest co-operation of various community organizations who can bring the lesson through their members into each and every home — and in order to have the proper approach to these organizations it is best that they be housed and grouped so far as is possible under one central roof. It can readily be seen, therefore, that it is just as important to provide adequate space in a health center for these organizations as well as those actually rendering medical and surgical relief.

The below-mentioned active so-called medical and nursing associations are at present doing substantial work in the various sections of Boston, and are therefore a necessary and integral part of a health unit:

1. Boston Health Department.
2. Instructive District Nursing Association.
3. Baby Hygiene Association.
4. Boston Sanatorium for Consumptives.

5. Boston Dispensary (physician for poor of district). The above organizations are the ones doing actual medical work, and to these must be added the various relief associations which render assistance to the poor, and which necessarily must be closely allied to those alleviating disease.

In addition to the organizations rendering medical and surgical, as well as monetary, relief, space must and should be provided for the various social organizations under which may be grouped mothers' clubs, clubs organized for the purpose of disseminating health education, clubs for the purpose of keeping boys and girls off the streets,

and, in short, room should be provided for any and all organizations whose functions and purposes are to improve conditions in a district. With that in view the following layout is recommended as one that would be considered fairly practical and ideal, always bearing in mind the possibility of future expansion, and for that reason the health center should be constructed so as to leave at the present time available space for the carrying out of any practical ideas of the future.

The requirements suggest a two-story building above the basement, with a minimum land area of 50 feet wide and 100 feet deep, and in that event, covering at least 40 feet in width and 80 feet of the depth, leaving an areaway on both sides and in the rear, for light and air. The street floor would be divided up into a group of offices adequately equipped for the carrying out of the various medical, dental and advisory functions, having also the administrative offices of the director and other agents whose functions will be the administration of the unit.

The second floor should contain offices in the front of the building, using as little space as possible for adequate purposes and leaving the rest of the space on that floor for a suitable auditorium, which should be a very important agent for the health education of that community, and the use of which a great many of the agencies will avail themselves.

The subdivisions of space suggested for the various medical and nursing offices should not be prematurely given, and should be left to the judgment of the various agencies, it being necessary, only, in the original plans to make sure that there will be ample space to care for the different welfare organizations and give them a reasonable amount of working room.

The present layout of the ground floor of 17 Blossom street, our present health unit, where the herein listed organizations are all actively engaged, and all have fairly substantial room in which to conduct their activities, may be taken as a model in this particular. It must be understood that in planning future health centers no section of the city is typical of another. Organizations that must be essential as part and parcel of the personnel in one section of the city may be entirely unnecessary in another. But one manifest fact must never be lost sight of and that is that adequate space must be provided in that part of the city where it is deemed a health center is practically necessary, for the housing of the actual medical relief organizations, and also space must be provided for those organizations whose purpose and function is to teach health education as well as uplifting moral and mental education, and that can be done practically in the dimensions herein noted.

HEALTH CENTER WORK IN OTHER CITIES.

CITIES.	Health Centers.	New Buildings.	Old Quarters Converted.
Cleveland, Ohio. . . .	7	No.	Yes (and stores).
Chicago, Ill.	—	Eight municipal tuberculosis dispensaries.	
Milwaukee, Wis. . . .	—	Fourteen Child Welfare Clinics (contemplating erection of special building for health center and municipal purposes).	
Cincinnati, Ohio. . . .	1	Not stated.	
Buffalo, N. Y.	7	1, in connection with City Hospital; 1, in connection with public baths and library.	Five that also serve other purposes.
Detroit, Mich.	Several.	No.	Yes; for health center purposes.
St. Louis, Mo.	10	No.	Leased buildings and equipped by city.
Baltimore, Md.	1, and day nursery.	No.	Two small houses rented.
Philadelphia, Pa. . . .	10	About to experiment in a city owned property.	Rent three-story corner buildings in congested district and business street.
Washington, D. C. . .	—	Eight welfare stations conducted by Child Welfare Society.	

MILK IN THE SCHOOLS.

During the past few years a custom has developed and spread throughout the country which is undoubtedly of foremost importance to the health of our future generations; namely, the serving of milk in the public schools. The great importance which milk plays in the diet of the growing child has been given wide attention, and is becoming well established in the minds of all those interested in child welfare.

There is no better time for the child to receive a portion of his milk ration than during the school lunch. It is necessary for the milk inspector to see not only that milk of a good quality is served, but that it is served in a sanitary manner. Caution should be taken either to see that the milk is not delivered to the school until lunch time; or, if delivered at an earlier hour, to see that it is properly iced and stored until served.

All milk for the school lunch should be delivered in bottles, as this is much more sanitary. The tops of the bottles should be thoroughly washed before opening. The milk should be drunk without pouring from the bottles, for children will frequently fail to keep individual cups or glasses in a clean, sanitary condition. Even more

sanitary is the use of individual straws. Sometimes bottles are capped with a special cap for school use.

Inspectors should make frequent visits to the schools where milk is being served. Samples should be taken to determine that milk of good quality is supplied by the dairies, and the inspectors may be of great assistance in seeing that it is handled and served at the schools in a sanitary manner.

Inspectors in cities where this custom has not been adopted would do well to advocate and encourage its adoption.

The dairy inspector should interest himself in this phase of dairy inspection, not only because he is expected to provide a clean and safe milk supply; but because the movement has important health significance in increasing the health and vigor of growing children.—*United States Department of Agriculture, M. I., Letter No. 65.*

REPORT OF SCHICK WORK, MAY 6, 1922, TO SEPTEMBER 30, 1922.

	Number.	Per Cent.
Schick tests	16,311	
Readings	14,736	* 90.34
Reactions.		
Positive	6,175	† 41.99
Positive combined	898	6.1
Negative	5,796	39.33
Pseudo	1,867	12.66
Total	14,736	99.99
T. A. Injections.		
First injection	6,091	† 86.1
Second injection	3,620	
Third injection	2,799	
Total	12,510	
Cultures.		
Positive	168	6.25
Negative	2,511	
Total	2,679	
Cultures from positive Schick reactors	1,663	
Positive cultures from positive Schick reactors	103	6.2
Negative cultures from positive Schick reactors	1,560	
Cultures from negative Schick reactors	1,000	
Positive cultures from negative Schick reactors	57	5.7
Negative cultures from negative Schick reactors	943	

* Per cent of those tested which were read. Difference due to absentees.

† Per cent of total readings.

‡ Per cent of total positive and positive combined reactions.

SMALLPOX IN THE PHILIPPINES.

The following is taken from the United States Public Health Reports, September 22, 1922:

"THE AMERICAN HUMANE ASSOCIATION,
ALBANY, N. Y., March 22, 1922.

MAJ.-GEN. LEONARD WOOD,
Governor-General Philippines Islands, Manila, P. I.:

DEAR GENERAL WOOD,— A correspondent in Tampa, Fla., has just sent me a clipping which discusses the matter of smallpox vaccination in the Philippines. It states:

In 1918 the Philippine Health Service shot 3,286,376 slugs of pus into that number of Filipinos and reaped a harvest of 47,369 cases of smallpox with 10,447 deaths.

In 1919 they improved the service and delivered 7,670,252 pus puncheries into their brown brethren and reaped a harvest of 65,180 cases of smallpox with 44,408 deaths.

I have no means of determining the truth of such a statement. If you can put me in the way of getting definite and reliable facts in regard to the conditions referred to, I shall be very glad to have the information.

Hoping that you are well and realizing that you will do everything to make good for our Filipino brethren, I am,

Faithfully your friend,

W. O. STILLMAN, *President.*

P. S. Does the above mean that the vaccination was a failure? I am a physician."

"OFFICE OF THE GOVERNOR-GENERAL OF THE PHILIPPINE ISLANDS,
MANILA, April 29, 1922.

DEAR MR. STILLMAN,— Your letter of March 22, quoting a statement from a correspondent in Florida, which would seem to throw doubt upon the efficacy of vaccination, has just been received. The real facts are diametrically opposite; instead of there being any doubt as to the value of vaccination against smallpox it has been doubly confirmed.

According to the reports of the Philippine Health Service, 1918, there have been even a larger number of deaths reported than quoted by your correspondent. When the records are analyzed they show that something like 90 per cent of the deaths occurred in children, most of whom were born since 1913. The records show that vaccination has been steadily continued since 1913, but on investigation it was found that, owing to the inefficient inspection, vaccination

consisted mostly in destroying the vaccine and submitting reports to the main office that it had been applied. In brief, a huge unvaccinated population had accumulated in the Philippines; it only required a spark to set it into conflagration, and in a short time a smallpox epidemic began among these unvaccinated children which assumed huge proportions and eventually gained such virulence that it affected persons who under ordinary conditions would have been safe. The figures of the city of Manila bear out this statement in a striking manner. Among 989 deaths that were recorded, all but 100 occurred in children under ten years of age. Again, of 1,826 cases received at the Manila Infectious Disease Hospital, 813 had never been vaccinated, and of these 680 died; 336 had been vaccinated with negative results, of these 249 died. Of the total 1,826 cases received at the hospital only 176 had evidence of vaccination, many of which were undoubtedly performed many years prior to the attack of the disease. Among this number there were sixty deaths. During 1919 more effective vaccination was begun, and there was such a decline in the smallpox epidemic that by 1920 there were only five cases in Manila, and none in 1921.

* * * it will be seen that after effective vaccination had been established in the city of Manila there were no deaths for seven years. It is also interesting to observe that before the days of systematic vaccination in the Philippine Islands there were approximately 40,000 deaths per year from smallpox. As effectual vaccination was carried out the disease disappeared, province by province.

It is apparent, therefore, that the foregoing information makes concrete proof of the value and desirability of vaccination when it is effectually applied.

Yours very sincerely,

LEONARD WOOD."

RECENT STATISTICS ON CANCER IN BOSTON.

In the six-year period from 1915 to 1920, both inclusive, there occurred in Boston 5,467 deaths from cancer, all sites. This figure represents 7.38 per cent of all the deaths from all causes occurring in the City of Boston in the same period, excepting only the influenza deaths in 1918, which were abnormally high. If the influenza deaths in that year are included, the deaths from cancer alone in the six-year period amounted to an even 7 per cent of all the deaths from all causes in the same period.

The mortality by principal organs or parts affected, according to sex, for the six-year period may be shown as follows:

SITE.	Males.	Females.	Total.	Per Cent.
Buccal cavity.....	197	36	233	4.26
Stomach and liver.....	867	797	1,664	30.43
Peritoneum, intestines, rectum.....	387	574	961	17.57
Female generative organs.....		828	828	15.14
Breast.....	3	582	585	10.70
Skin.....	48	38	86	1.57
Others.....	704	406	1,110	20.30
Totals.....	2,206	3,261	5,467	99.97

Of the total number of cancer deaths 40.35 per cent were males, and 59.65 per cent were females. In other words, for every 100 males who died from the disease there were 147 females who succumbed.

The approximate annual increase in the number of deaths from cancer in the period is 2.05 per cent. That cancer is essentially an adult disease is shown by the fact that 94.86 per cent of the deaths occurred above the age of 35 years. The total number of deaths occurring yearly from cancer and from tuberculosis of the lungs in the period may be compared as follows:

YEAR.	Deaths from Cancer.	Deaths from Tuberculosis.	YEAR.	Deaths from Cancer.	Deaths from Tuberculosis.
1915.....	855	1,034	1919.....	905	966
1916.....	868	1,112	1920.....	968	821
1917.....	917	1,148	Totals.....	5,467	6,237
1918.....	954	1,186			

If 1921 total deaths from cancer, 1,055, and from tuberculosis, 760, are added to the above, the total deaths for the last seven years for each disease is: Cancer, 6,522; tuberculosis, 7,027, or a difference of only 505 more tuberculosis deaths in the seven-year period.

A WONDERFUL BEAST IS THE MONKEY.

A Pittsburgh oil magnate contributes a new chapter to the value of monkey glands — says that a daily diet of the same will grow luxuriant hair on any bald pate in any state of nudity. A wonderful beast is the monkey, which makes the old man young, the old maid amorous and to the bald headed man now bestows a forest of curling locks, thick as clinging ivy on a fine old ruin. Next!

—*Exchange.*

RED CROSS SUNDAY, NOVEMBER 12, 1922.

The Boston Health Department has received from the Publicity Director of the American Red Cross, Boston Metropolitan Chapter, an announcement to the effect that the Chapter will on November 12, 1922, seek to re-enlist the 300,000 members who supported the organization during the war.

An organization such as the American Red Cross well deserves the support of those who recognize the service performed by it, as outlined in the circular below. The American Red Cross, with its agencies in every quarter of the globe, has unlimited fields for the demands consistently made upon it. To meet these demands it is absolutely necessary that funds be available. The only way that funds, in the aggregate, are made available is by a direct appeal to the general public, so that the special contributions which are regularly and consistently received from private individuals keenly interested in the organization's welfare may be augmented by the generosity of the public. The public is therefore given an opportunity to become acquainted with the reasons for the continuance of the membership in the American Red Cross by present members, and for the association of new members, by reading the circular printed below.

THE AMERICAN RED CROSS,
BOSTON METROPOLITAN CHAPTER, 73 NEWBURY STREET, BOSTON.

On the basis of an essential peace-time service not duplicated by any other social agency, the Boston Metropolitan Chapter of the American Red Cross will seek to re-enlist, on Red Cross Sunday, November 12, the 300,000 members who supported the organization during the war. Administration has been adjusted to the minimum of efficiency. Every department has been carefully studied, every unnecessary function eliminated.

The main issue of last year's "Roll Call"—the disabled veteran—is again the main issue of this one. Its importance has merely increased. The peak of the veteran's disability is not yet in sight. Acting, in a sense, as his attorney, the Chapter helps to establish his claim upon the government. During the process, which is usually involved and always lengthy, the Chapter provides for him and his family a constructive, human and neighborly service that the government is not equipped to render. This year an average of 1,351 such families was assisted monthly. The war is by no means over for the men who fought it.

Other functions of the Chapter are but relatively less important.

Draft figures, showing 50 per cent of the men examined unfit for duty, made a startling "Stop, Look and Listen" sign on the national highway. The Red Cross heeded the sign. As one of its prime activities in time of peace it is promoting health through educational and preventive work; assisting communities to establish and maintain health centers, with clinics for infants, children and adults; conducting classes in home hygiene and care of the sick and life saving. This year 266 persons took first aid instructions; 1,180 enrolled in home hygiene classes; 204 passed life-saving tests.

Through the Volunteer Motor Corps the Red Cross serves those who are ill and in need of transportation to the hospital clinic. Victims of infantile paralysis, children and adults needing hospital care, but not able to travel in street cars or pay for transportation, are conveyed regularly for treatment. More than 5,000 invalid soldiers, old people and infantile paralysis patients were transported this year, 35,000 miles being covered in this work. The Chapter also maintains an ambulance, driven by volunteers. This year it responded to 1,372 calls.

Volunteers prepared for the Chapter 94 manuscripts, containing more than 4,400 pages in Braille—a system of raised letters for the blind. These are sent to the Library of Congress, where they are bound into volumes, and thence to the Evergreen School for the Blind, at Baltimore, for the instruction of the ex-service men.

The Production Department shipped 64,406 garments to refugees overseas. More than 1,157,000 garments have been shipped overseas since August, 1914.

About 70,000 toys, articles of clothing, scrapbooks and the like were sent to European children by the 130,000 members of the Chapter's Junior Red Cross—not as a charity, incidentally, but as a friendly exchange, for many beautiful and curious gifts, made by the children abroad, were returned. This service is organized through the schools—public, private, parochial—300 of them. Forty-two of these schools are corresponding, via the organization, with schools in nineteen foreign countries. The motto of the Juniors is "I Serve." And they do—the ill and handicapped at home as well as their fellows abroad. Who can tell how far-reaching in the promotion of that international understanding and good fellowship—which can alone prevent future wars—this movement to make comrades of the world's children may prove to be?

How many people in New England realize that the Boston Metropolitan Chapter maintains a fully equipped disaster and canteen service, ready for immediate action, with a 100-bed hospital, medical and nursing corps, in the event of a calamity too great for the municipal authorities to handle?

The Chapter has its fingers on the pulse not only of the community but of a suffering world. It is a mistake to regard the Red Cross as merely a battlefield organization. The disabled veteran, the disaster-stricken, the sick, "the lame, halt and blind," the children of devastated Europe and the children of America, who would like to be shown how to help them—all need "mothering in peace as well as in war." "The Greatest Mother in the World" is a full-time mother, always alert, ready to serve and continuously on her job.

"It is encouraging to note that at the Inter-Allied Congress on Cancer to be held at Strasbourg next spring, alongside two obvious subjects for discussion—namely, the experimental production of cancer and the treatment of mammary cancer by irradiation—there is a third and more fundamental item on the agenda, namely, the spontaneous and provoked reactions of the organism against cancer. In one or other of these investigations, pursued with tireless zeal by well-equipped and open-minded workers, we may hope for light on the path to be trod."—*London Lancet, September 23, 1922.*

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING SEPTEMBER, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	7	20.59
7 days or less.....	—	—
8 to 14 days, inclusive.....	1	2.94
15 to 21 days, inclusive.....	1	2.94
22 to 31 days, inclusive.....	2	5.88
WITHIN FIRST MONTH.....	11	32.35
Within second month.....	3	8.82
Within third month.....	2	5.88
Within fourth month.....	2	5.88
Within fifth month.....	2	5.88
Within sixth month.....	—	—
Within seventh month.....	—	—
Within eighth month.....	1	2.94
Within ninth month.....	1	2.94
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelfth month.....	1	2.94
WITHIN FIRST YEAR PRECEDING DEATH.....	23	67.65
Within second year.....	6	7.65
Within third year.....	1	2.94
More than three years.....	4	11.76
Total.....	34	100.00

DEATHS AND DEATH RATES FOR CERTAIN CITIES, SEPT., 1922.

CITY.	Popula- tion Esti- mated July 1, 1922.	DEATHS DURING WEEK ENDING					DEATH RATES DURING WEEK ENDING				
		Sept. 2.	Sept. 9.	Sept. 16.	Sept. 23.	Sept. 30.	Sept. 2.	Sept. 9.	Sept. 16.	Sept. 23.	Sept. 30.
Boston.....	764,017	185	166	*—	197	199	12.6	11.3	*—	13.4	13.6
Bridgeport, Conn..	143,555	20	21	—	21	36	7.3	7.6	—	7.6	13.1
Cambridge.....	110,944	25	18	—	25	27	11.8	8.5	—	11.8	12.7
Fall River.....	120,790	32	36	—	32	30	13.8	15.5	—	13.8	13.0
Lowell.....	114,423	24	28	—	26	28	10.9	12.8	—	11.8	12.8
New Bedford. . .	127,542	30	19	—	31	34	12.3	7.8	—	12.7	13.9
Providence, R. I..	241,011	58	57	—	59	52	12.5	12.3	—	12.8	11.3
Springfield.....	140,052	28	12	—	28	29	10.4	4.5	—	10.4	10.8
Worcester.....	188,449	43	40	—	35	35	11.9	11.1	—	9.7	9.7

* Not available.

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health.	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Publications	1108 City Hall Annex.
Licenses and permits	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex.
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts	
Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.—General offices on the eleventh floor of the City Hall Annex, 9 a. m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.—The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday. Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.—The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population		757,634
Live Births	19,397	Birth rate (live births) 25.69
Deaths	10,220	Death rate 13.48

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

SUMMARY OF THE WORK, SEPTEMBER, 1922.

BUREAU OF ADMINISTRATION.

	Sept.	Aug.		Sept.	Aug.
Conferences	5	5	Contracts approved . .	1	0
Hearings	2	1	Personnel:		
Prosecutions ordered . .	24	15	Appointments . . .	1	2
Orders	3	5	Employment termi-		
Temporary permits . . .	1	0	nated	1	0
Proposals:			Transfers	1	0
Culture stations ap-			Offensive trades licensed,	4	0
proved	1	0	Forcible removals . .	1	3
Lying-in hospitals ap-			Buildings ordered demol-		
proved	1	0	ished	8	0
Special drafts	0	2			

LICENSES, PERMITS, ETC., ISSUED.

	Sept.	Aug.		Sept.	Aug.
Burial permits	899	958	Denatured alcohol li-		
Disinterment permits . .	8	12	censes	1	1
Milk licenses	117	203	Manicure-massage:		
Peddler's licenses, general,	65	153	Granted	43	33
Hen licenses granted . . .	49	97	Beverage establishments		
Stable permit revoked . .	1	0	licensed	3	15
Sewers approved	1	0	Dumps	1	2
Grease	0	4	Sundry	0	12

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Sept.	Aug.		Sept.	Aug.
Visits by medical inspec-			Vaccination certificates .	292	2
tors	1,707	836	Cases brought to Boston		
Deaths investigated . . .	12	13	for treatment	69	74
Vaccination	517	8	Antitoxin administered .	68	14

NURSING SERVICE.

	Sept.	Aug.
Communicable disease visits	1,808	1,546
Babies visited, first visit	725	1,064
Revisits	2,580	2,031

HEALTH UNIT (Blossom Street).

	Sept.	Aug.		Sept.	Aug.
Health Department proper:					
Vaccinations				409	90
Vaccination certificates issued				386	7
Cases visited by nurses:					
Communicable diseases				151	197
Complaints made of unsanitary conditions				20	11
Baby Hygiene Associa-	Sept.	Aug.	Conferences:	Sept.	Aug.
tion:			Number	7	10
Babies cared for	340	341	Total attendance . . .	336	440
Babies newly admitted .	28	26	Home visits by nurses,	495	498

	Sept.	Aug.
Boston Dispensary:		
Calls by district physician from Boston Dispensary	39	59
Consumptives' Hospital Department:		
Calls by nurses in districts	758	524
Instructive District Nursing Association:		
Visits by nurses	1,750	1,749
Jewish Welfare Center:		
Conferences held	2	*
Number of children attending conferences	44	*
Visitors:		
City	15	3
Out of city	0	2
General:		
Number of persons applying for information	322	316
Pre-natal classes	4	4

* Not available.

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Sept.	Aug.
New reports	2,451	2,044
Stores inspected	3,609	3,429
Sanitary defects remedied	367	369
Complaints at office	50	65
Referred to Sanitary Division	54	63
Milk applications approved	136	168
Street stands inspected	22	35
Peddlers:		
Applications for licenses approved	67	150
Vehicles inspected and approved	746	905
Court cases	11	6
Fines	\$43.65	\$35

CONDEMNATIONS.

BY REQUEST.

Plums	475 baskets
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WITHOUT REQUEST.

Almond meat	3 pounds	Peaches	1 bushel
Beef	245 pounds	Plucks	11 pounds
Candy	100 pounds	Pork trimmings	355 pounds
Cantaloupes	30 crates	Pork loins	30 pounds
Chicken	311 pounds	Poultry	34 pounds
Chocolates	300 pounds	Prunes	20 pounds
Corned beef	300 pounds	Raisins	486 pounds
Eggs	$\frac{1}{2}$ dozen	Sausages	60 pounds
Figs	48 pounds	Smelts	46 pounds
Frankfurters	$\frac{1}{2}$ pounds	Sweetbread	15 pounds
Jam	20,020 cans	Tomato paste	$\frac{1}{2}$ pound
Lamb	52 pounds	Tongues	2 pounds
Liver	12 pounds	Walnut pieces	50 pounds
Miscellaneous foodstuffs	3 pounds	Veal	544 pounds
Nougats	50 boxes		

LIVE STOCK INSPECTION (Brighton Abattoir).

	Sept.	Aug.		Sept.	Aug.
Cattle inspected . . .	175	314	Parts condemned . . .	405	287
Calves inspected . . .	169	113	Animals condemned . . .	9	4
Swine inspected . . .	4,807	3,940			

DAIRY DIVISION.

	Sept.	Aug.		Sept.	Aug.
Total inspections . . .	940	1,591	With milk rooms . . .	314	232
Dairies inspected . . .	515	476	Without milk rooms . . .	201	244
Scoring above 50 * . .	341	257	Inactive	167	82
Scoring below 50 . . .	164	219	Total cattle inspected . .	6,539	5,980

* Passable mark.

BUREAU OF MILK INSPECTION.

	Sept.	Aug.		Sept.	Aug.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,200	1,177	Milk	558	678
Ice cream	87	13	Ice cream	87	88
Vinegar	81	0	Court cases	61	0
Miscellaneous	8	5	Fines	\$685	\$0

SANITARY INSPECTION.

	Sept.	Aug.		Sept.	Aug.
Original inspections . .	2,137	1,967	Car reports	160	487
New report	2,582	2,617	Complaints	893	1,190
Reinspections	5,361	6,627	Court cases	25	15
Legal notices served . .	335	400	Fines	\$18.20	\$2

BACTERIOLOGICAL LABORATORY.

	Sept.	Aug.
Examinations for diagnosis and release:		
Diphtheria	1,023	1,368
Tuberculosis	265	208
Typhoid	79	68
Gonorrhea	708	496
Gonorrheal ophthalmia	56	37
Syphilis	977	969
Other examinations	* 41	23
Bacteriological examinations of milk	629	647
Bacteriological examinations of ice cream	85	48
Examination of rats	509	819
Special K. L. examinations	1,406	2,243

* Malaria, 6; genito-urinal T. B., 4; abscess for T. B., 1; pock for putrefaction, 1; blood for paratyphoids, 6; pleural fluid for T. B., 1; pus from abscess for staph. aureus, 1; blood culture for typhoid, 1; dogs for rabies, 6; stools for typhoid, 1; cultures for virulence, 1; candy for toxins, 1; mayonnaise dressing for organisms, 1; clothing for infection, 4; corned shoulder for toxins, 1; blood for lead poison, 1; spinal fluid for T. B., 1; spinal fluid for pneumococci, 1; smear for organisms, 1; dark field examinations, 1.

A recent investigation of more than one thousand cases of tuberculosis in children shows that about one third of the cases were of bovine origin.

VITAL STATISTICS, SEPTEMBER, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING SEPTEMBER, 1922, WITH COMPARATIVE FIGURES FOR SEPTEMBER, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	784	758	+26	12.31	12.00	+.31
Nonresidents deducted.....	633	617	+16	9.94	9.77	+.17
BY AGE:						
Under one year.....	166	125	+41	2.61	1.97	+.64
One year to four years, inclusive.....	53	39	+14	.83	.62	+.21
Sixty years and over.....	233	259	-26	3.65	4.10	-.45
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	39	45	-6	.61	.71	-.10
Arterio-sclerosis.....	38	34	+4	.59	.54	+.05
Heart disease.....	84	99	-15	1.32	1.57	-.25
Nephritis, chronic.....	46	43	+3	.72	.68	+.04
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,623	1,732	-109	25.49	27.43	-1.94
b. Registered stillbirths.....	49	50	-1	.77	.79	-.02
Stillbirths per 1,000 births and stillbirths.....				29.30	28.06	+1.24
c. Deaths of mothers from causes incident to childbirth.....	8	12	-4	.12	.19	-.07
Deaths of mothers per 1,000 births and stillbirths.....				4.78	6.73	-1.95
d. Deaths of children in first year of life...	166	125	+41	2.61	1.97	+.64
Deaths in first year per 1,000 live births.....				102.27	72.17	+30.10
VIOLENCE:						
Accidents.....	41	47	-6	.64	.74	-.10
Homicides.....	3	3	.....	.05	.05	.....
Suicides.....	6	8	-2	.09	.13	-.04
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	11	4	+7	.17	.06	+.11
Broncho-pneumonia.....	27	19	+8	.42	.30	+.12
Cancer.....	86	72	+14	1.35	1.14	+.21
Cirrhosis of the liver.....	4	3	+1	.06	.05	+.01
Diabetes mellitus.....	13	14	-1	.21	.22	-.01
Diarrhoeal diseases, children under two years of age.....	50	36	+14	.78	.57	+.21

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON, SEPT., 1922.— Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis.....	Cases... 17	15	+2	.27	.24	+.03
	Deaths.. —	—	—	—	—	—
Cerebro-spinal meningitis.....	Cases... 1	3	—2	.016	.05	— .03
	Deaths.. —	3	—3	—	.05	— .05
Diphtheria.....	Cases... 17	115	+61	2.76	1.82	+.94
	Deaths.. 12	8	+4	.19	.13	+.06
Influenza.....	Cases... 3	2	+1	.05	.03	+.02
	Deaths.. —	—	—	—	—	—
Measles.....	Cases... 75	51	+24	1.18	.81	+ .37
	Deaths.. 1	1	—	.016	0.16	—
Pneumonia (lobar).....	Cases... 30	55	—25	.47	.87	— .40
	Deaths.. 16	24	—8	.25	.38	— .13
Scarlet fever.....	Cases... 47	64	—17	.74	1.02	— .28
	Deaths.. 1	2	—1	.016	.03	— .01
Tuberculosis (pulmonary).....	Cases... 131	172	—41	2.06	2.72	— .66
	Deaths.. 45	65	—20	.71	1.03	— .32
Tuberculosis (other forms).....	Cases... 34	27	+7	.53	.43	+.10
	Deaths.. 11	10	+1	.17	.16	+.01
Typhoid fever.....	Cases... 26	13	+13	.41	.20	+.21
	Deaths.. 3	1	+2	.05	0.16	+.03
Whooping cough.....	Cases... 209	28	+181	.28	.44	+2.84
	Deaths.. 26	3	+23	.41	.05	+.36

DO NOT DESTROY.

When you have no further use for this
Bulletin give it to someone else.

MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, OCTOBER, 1922.

NO. 10

SMALLPOX — A WARNING.

For over twenty years the prevailing type of smallpox in this country has been mild and not highly contagious. Out of thousands of cases that have occurred every year the deaths have been comparatively few. History shows that as time goes on a mild type of smallpox may tend to become virulent. Apparently this is now taking place with respect to the type of the disease which has been prevalent in this country. Last year in certain localities smallpox showed a marked increase in mortality.

For twenty years Boston has been fortunate in escaping a serious smallpox epidemic. During this time the disease has prevailed now and then in neighboring states. Practically every winter the Boston Health Department has found some cases of smallpox in Boston for which it has had to provide hospital care.

On the discovery of such a case the Health Department has made strenuous efforts to prevent the spread of the disease. It has carefully traced, vaccinated and kept under observation hundreds of people whom a person with smallpox had possibly exposed to infection. The energetic measures taken by the Health Department in such cases have undoubtedly been effective to a certain extent in preventing the spread of smallpox in the city, but the futility of depending on such procedures when a case of smallpox is discovered is apparent when the manner in which cases actually come to the attention of the Health Department is considered.

The following actual instances will serve as examples:

We are notified that it has just been discovered by the health authorities in an adjoining town that a resident of that town has smallpox and has been sick at least a week.

It is characteristic of smallpox that after feeling sick enough probably to stay at home for twenty-four or forty-eight hours a remission occurs in the disease. The temperature falls and the person feels so much better that he goes back to work or, worse yet, proceeds to take a little recreation by traveling about, visiting, or going to the theater. The smallpox pimples begin to appear at this stage, but it may be a day or two or longer before he begins to pay serious attention to the pimples, or feels sick enough to remain at home. In the specific case to which we are referring the patient went out as usual to seek recreation during this stage of remission. He rode in street cars, visited friends in several towns around Boston, came into Boston and had a haircut and shave in a first-class barber shop, and had dinner in a hotel restaurant in Boston. A remarkably large number of people with whom he came in contact were actually located and kept under observation by the various municipal health authorities concerned, but it was of course impossible to locate them all.

Another man was discovered to have smallpox after he had been sick with the disease for two weeks. He lived in a boarding house and had been receiving visitors freely and, his remission occurring during Holy Week, he took advantage of the abatement of symptoms to visit seven crowded churches in one evening.

Another instance is that of a practising physician called to attend a child. He suspects smallpox and notifies the Health Department. Investigation shows that not only the child but the mother also has smallpox and that both have contracted the disease from the husband and father, who was home for a few days about two weeks before with what was a mild, unrecognized case of smallpox. The man had returned to his place of employment, a prominent hotel, where his duties had brought him in contact not only with fellow employees but with guests from all over the country.

Neither of these cases gave rise to any serious local outbreak of smallpox. To what extent they may have given rise to cases which we never discovered we do not know. It has not, however, been an unusual occurrence for the Health Department to discover in Boston a case of smallpox in an individual who must have contracted the disease from some unknown person whom the Health Department has never been able to locate.

From what has been stated above it might be inferred

that smallpox is not a highly contagious disease, but here is another experience. Within a few years a Boston hospital admitted a patient suffering from a complication of diseases. Among them was a beginning case of smallpox which was not immediately recognized, and as a result ten employees and patients in the hospital came down with smallpox.

A sailor suffering from a severe form of smallpox was removed from an arriving ship to the contagious department of a general hospital in a Canadian seaport. The case was recognized as smallpox before removal from the ship and it was supposed that the case was being handled with precautions sufficient to prevent the spread of the disease. Through an accident, however, infection got into the general population of the city and as a result, while no other cases occurred at the hospital, there were over eighty cases in the city and of these about forty were fatal.

While it is undoubtedly true that the severer forms of smallpox are more highly contagious than the milder type, it is safe to say that the only reason why Boston and other eastern cities have not in the last twenty years been afflicted with smallpox epidemics like those from which our western cities have suffered is because of the higher percentage of people in the eastern United States who have been successfully vaccinated at least once in their lives. An outbreak of smallpox never has been and never can be controlled except by vaccination. The likelihood that a person sick with smallpox will travel about in public conveyances while in perhaps the most contagious stage of the disease shows the futility of trying to control smallpox by the isolation of the sick and by attempting to round up those whom he may have exposed to infection. On the other hand, every vaccinated person in the population effectively breaks a possible chain of infection.

The open season for smallpox is now at hand. There is every reason to believe that persons in a contagious stage of smallpox will be found riding in our street cars, dining in our restaurants, and patronizing our barber shops this winter. The chances that you will sit alongside a smallpox case or follow one into a barber's chair appear now to be small. If your chances of exposure are greatly increased, you will of course know of it from the Health Department, but do not be misled by an idea that smallpox contagion is any respecter of persons or of a sanitary environment. You may be exposed to smallpox infection here tomorrow. Our stray cases of smallpox in Boston do not occur among the "poorer classes." They are more likely to be protected by vaccination than others. If you are protected against

smallpox by vaccination you need not care if you do ride home with an active case of smallpox tomorrow night. Your family need not care either. The chances of your taking the disease home in your clothes are hardly worth taking into account. If you are protected by vaccination you not only protect yourself but protect even the unvaccinated members of your household by not transmitting the disease to them. If you are unvaccinated and do come down with smallpox, the disease in all probability will not be recognized until you have exposed your family to possible infection.

If you are not sure you are protected against smallpox why not get vaccinated now as a duty not only to yourself but to your family and the public?

PRENDERGAST PREVENTORIUM FOR CHILDREN.

The most recent of the various movements in Boston against the disease tuberculosis is the Prendergast Preventorium for Children, established at Mattapan this year by the Boston Tuberculosis Association. It is at the present time, now six months old, attracting a great deal of attention from its novelty and the common sense line of its work. With reference to the best means for combatting tuberculosis skilled opinion has undergone a radical change since the early part of the present century. Then attention was focussed on the adult consumptive. The attitude of today by no means belittles the importance of caring for adults, but it recognizes also that children become infected at an early age, and although this infection is not always the forerunner of active disease, it is too often true that from among such children, who are exposed to an adult case, are recruited the future armies of consumptives. The effort has been therefore for early diagnosis, affording an opportunity for earlier and more effective treatment.

The preventorium is a step forward from even such treatment, for it seeks to work with what may be termed for convenience the "pretuberculous" child. Children who are seriously under weight and whose home conditions bring them into contact with adult consumptives, are now considered as future victims of tuberculosis, although no definite symptoms may be present. It is further believed that with proper treatment in a preventorium, separated from dangerous home infections, in an atmosphere of fresh air, with good food and good care, poorly nourished children, whose resistance is comparatively low, may be furnished with such a reserve of health need of the preventorium, and have established them as municipal functions. In Boston the demonstration is conducted by a private agency.

ON THE WAY TO HEALTH.



HEALTH GAINING GIRLS AND THEIR WEIGHT CHARTS.

(Prendergast Preventorium.)

The Boston Tuberculosis Association has been the leader in a dozen previous demonstrations of promising experiments in health work, from the early open-air school of fifteen years ago to the industrial nurse and the consultation clinic of later days. These have been adopted by official health agencies. The time seemed ripe for a demonstration of the value of the preventorium, and in May such an institution was opened at the Prendergast Camp, and twenty little girls were admitted, and since that time have been cared for day and night.

It has been the regret of the association that boys as well as girls could not be cared for, but the Prendergast Preventorium was possible from the funds supplied by the Christmas seal sale of last year, and has demanded the full amount of the receipts. It is hoped that with the coming season the amount received may be greater and make possible a "preventorium wing for boys."

It is early to speak of the benefits received from the Prendergast Preventorium, for scientific results demand time and numbers for their establishment. But the association is much encouraged and is beginning to call the attention of those who are interested to the results. One evident benefit may be seen from the charts exhibited by the little girls in the picture. The dots are one week apart and the upward rise of the graphs is very plain. The stars have reference to work in the modern health crusade, which the children have undertaken.

The preventorium is "a stitch in time." Children who are treated in such an institution are those who might under the older run of affairs have become a burden to their families or to the community through sickness. With preventorium treatment they become self-supporting, and thus stamp the institutions of this class as a coming necessity in up-to-date communities. One or two cities on this continent have already become convinced of the health need of the preventorium, and have established them as municipal functions. In Boston the demonstration is conducted by a private health agency.

NATIONAL CANCER WEEK.

"National Cancer Week" has been fixed by the American Society for the Control of Cancer for November 12-18 next. It will be conducted throughout the country by the state and local committees of the society, working in co-operation with official and volunteer health agencies. The society now has 655 cancer committees, and efforts are being made to increase this number and to perfect the organizations already in existence.

A SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of the October survey made of market milk sold in Boston by dealers and chain stores. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat.

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Alden Brothers Company.....	12.56	3.73	21
Anderson, Oscar A.....	12.80	3.96	372
Antetomosso, Peter.....	12.63	3.63	14
R. Barden Cry Company.....	13.33	4.17	35
Barron, Clarence W.....	14.55	5.23	4
Barrow, Fred G.....	12.24	3.61	415
Barry, Michael F.....	12.82	4.02	36
Bemis, Henry G.....	12.27	3.66	161
Bergmann, John H.....	13.31	4.25	23
Bowditch, E. F., estate.....	12.45	3.80	20
Brandley, T. J., & P. J.....	12.01	3.51	12
Brandon Farms Milk Company.....	11.98	3.38	344
Brookdale Creamery.....	12.78	3.90	127
Burns, James.....	12.50	3.76	25
Casey, James D.....	12.34	3.56	260
Cashin, James F.....	12.50	3.81	47
Chapin, George L.....	13.14	4.05	172
Childs Brothers.....	12.43	3.61	122
Cohen, Benjamin.....	12.80	4.06	17
Corkery, John H.....	12.45	3.68	124
Creeden & Crowell.....	12.46	3.63	25
Cummings, F. S., Company.....	12.45	3.70	27
Cunningham, Paul.....	12.61	3.93	5
Cusick, William H.....	12.36	3.78	36
Deerfoot Farm Milk Company.....	12.34	3.63	26
Denehy, Timothy.....	12.72	4.13	14
DiMaura, Gaetano.....	12.42	3.70	64
Driscoll, William B., Company.....	12.44	3.78	10
Duggan Brothers.....	12.62	3.73	79
Edgerly, Frank S.....	12.47	3.78	420
Elm Spring Farm Company.....	12.46	3.73	46
English, John.....	12.90	4.03	28

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria, Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Ferguson, Malcolm D.....	12.50	3.83	98
Garvin Charles E.....	13.32	4.31	33
Giroux, J. E., & Co.....	12.31	3.65	53
Griffin Joseph L.....	12.65	3.85	10
Griffin, Thomas J.....	12.80	4.03	51
Gushee, W. S., & C. W.....	12.27	3.48	21
Hagar, J. M., & Sons.....	12.51	3.68	167
Hancock, T. G., Company.....	12.86	4.08	41
Herlihy Brothers.....	12.58	3.80	22
Hickey, M. J.....	12.95	4.03	32
Holden, John E.....	12.64	3.83	22
Hood, H. P., & Sons, Inc.....	12.37	3.70	179
Jones, W. T., Company, Inc.....	12.56	3.90	12
Kendall Brothers.....	12.01	3.46	59
Kennedy, Robert J., Jr.....	12.45	3.71	10
Kingston, Samuel.....	12.73	4.10	26
Klawe & Freeman.....	12.84	4.01	22
Knapp, George J.....	12.78	3.93	232
Lang, Michael.....	12.51	3.61	95
Larkin, Patrick.....	12.94	4.30	72
Larsson, Charles.....	12.39	3.53	46
Lesser, Joseph.....	12.22	3.56	8
Lincoln Farms, Inc.....	12.97	4.16	96
Lubin, Felix.....	12.02	3.63	287
Lyndonville Creamery Association.....	12.45	3.43	21
Magee, Nellie A.....	12.52	3.66	6
Manning, Peter E.....	12.50	3.70	114
Maple Farm Milk Company.....	12.15	3.66	278
McAdams, John F.....	12.33	3.60	153
McKernan, John.....	12.62	3.90	15
Mekosky, Henry L.....	12.53	3.70	32
Moore, Peter.....	12.54	3.66	30
Morgan, George D., & Sons.....	12.40	3.80	83
Munchbach, George.....	12.28	3.45	34
New England Consolidated Farms.....	12.56	3.73	500
Nelson & Bennison.....	12.32	3.70	64
Newton & Pope.....	12.80	3.95	4
Noble, W. F., & Sons.....	12.70	3.91	20

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
O'Neill, James J., & Co.....	12.14	3.50	1,000
O'Shaughnessy, Patrick.....	12.18	3.60	470
Plymouth Creamery System.....	12.28	3.48	120
Pond, Harvey T.....	12.41	3.70	620
Raycraft, Benjamin F.....	12.00	3.53	345
Robbins, Frank E.....	12.54	3.78	16
Robinson, A. J.....	12.89	3.96	28
Robinson, James A.....	12.28	3.63	30
Runkle, John C.....	12.65	3.85	27
Schuster, Adam.....	12.56	3.66	30
Seven Oaks Dairy Company.....	12.63	3.85	38
Shattuck, Milo P.....	12.54	3.43	156
Shick, Jacob.....	11.69	3.38	394
Smith & Lynch.....	12.39	3.65	24
Smith, Walter H.....	12.48	3.72	54
Somerset Farms Milk Company.....	12.63	3.83	66
Sterling Farms Milk Company.....	12.52	3.71	24
Stone, Harvey L.....	12.52	3.73	114
Stuart, Wallis E.....	12.60	3.66	7
Sullivan, John D.....	12.33	3.76	19
Sullivan, John L.....	12.30	3.46	56
Tessicini, Loreto.....	11.99	3.53	26
Toothaker Brothers.....	12.52	3.73	57
Turner Centre System.....	12.64	3.83	22
Upland Farms.....	13.34	4.35	12
Vartanian, Setrag.....	12.32	3.66	336
Walker-Gordon Company.....	12.68	3.93	11
Ware, George H.....	12.55	3.81	24
Warren, Cornelia.....	13.28	4.36	6
Waller, E., & Sons.....	12.60	3.83	47
Werner, Ferdinand, Company.....	12.30	3.58	39
Westwood Farm.....	12.14	3.45	37
White Brothers.....	12.92	4.16	29
Whiting Milk Companies.....	12.31	3.68	129
Whittemore, W. D.....	12.56	3.90	8
Winer, Morris.....	12.71	3.75	95
Wiswall, Granville.....	12.61	3.80	24
Wittenberg & Company.....	12.83	4.03	216

CHAIN STORE MILKS.

NAME OF DEALER.	SUPPLIED BY	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	H. P. Hood & Sons, Inc....	12.36	3.73	73
John T. Connor Company.....	Bellows Falls Creamery As- sociation.	12.75	4.13	157
Co-operative Grocery Company,	J. M. Hagar & Sons.....	12.29	3.60	286
Economy Grocery Stores.....	Plymouth Creamery Sys- tem, Inc.	12.64	3.85	38
Morgan Brothers Company.....	Whiting Milk Companies...	12.48	3.73	266
M. O'Keeffe, Inc.....	J. M. Hagar & Sons.....	12.32	3.63	120

LOUIS PASTEUR, 1822-95.

The extensive International Exposition of Scientific and Industrial Hygiene, to be held in Strassbourg, France, from June to October, 1923, to commemorate the one hundredth anniversary of the birth of Louis Pasteur, the eminent French chemist, pathologist and bacteriologist, born December 22, 1822, at Dôle, is but a small expression of the gratitude of civilized people everywhere for the benefits to humanity and to the higher animals which Pasteur's discoveries have produced.

Pasteur was first of all an educator, and when he was still in the twenties he had served as an instructor in the intermediate and secondary schools and had come to Paris by invitation to assume the directorship of education at the Normal School. Subsequently he held a professorship at the School of Fine Arts, was professor of chemistry at the Sorbonne, secretary of the Academy of Sciences, and finally was made director of the Pasteur Institute which was founded partially from his own funds and partially from the monetary assistance of the French government, given as a tribute to his learning and to the world fame that was already his as a result of his experiments and discoveries.

Pasteur's early experiments were in the field of chemistry, and his work laid the foundation for most of our modern stereo-chemical ideas. His investigation of the tartrates and his demonstration of the connection between the presence of hemihedral faces on a crystal and its action on polarized light was a discovery of great brilliancy. He succeeded in separating optically inactive racemic acid into the two optically active varieties of tartaric acid by picking out the crystals of sodium ammonium racemate, which had right and left handed hemihedral faces, respectively. These findings led him to the discovery of the irresolvable mesotartaric acid.

The problem of fermentation next attracted Pasteur's attention, and he was the first to prove that fermentation takes place only when a definite organism is present in the sugary liquid. He found that the acting organism is different and characteristic in each kind of fermentation, and demonstrated that the formation of vinegar is a similar action, and that the "spontaneous generation" of living organism does not take place. How far-reaching Pasteur's discoveries along this line have been is indicated by the fact that "pasteurize" has come to be a verb in many languages. People who never heard of Pasteur or his work pay daily tribute to the work of the French scientist when they insist on receiving "pasteurized" milk, feeling that whatever else the word means, it means a safe, clean, wholesome milk.

It is probably, however, along pathological lines that the name of Pasteur is most famous. His first intensive study, that of the silkworm disease, was made at the instigation of the French government. Pasteur showed that the disease was of two kinds, both bacterial in origin, and he successfully combated both. He subsequently investigated anthrax, succeeded in isolating the bacillus, and then followed one after another his demonstrations that various diseases are due to bacterial organisms, and he succeeded in preparing "vaccines" which are of great practical use in controlling anthrax, fowl cholera and rabies.

Each of Pasteur's new contributions to chemical and medical science was bitterly opposed when he first brought it forth, but his discoveries so proved themselves that opposition turned into gratitude, and today the citizens of the world pay homage to the memory of a great scientist and a great benefactor, Louis Pasteur.

CERTIFICATES OF DEATH FROM PHYSICIANS.

It has been reported to this department by undertakers that in a great number of cases they have been unable to secure from the attending physician properly filled out certificates of death in cases that often require prompt attention. This has often resulted in great inconvenience to the undertaker in the preparation of the remains and necessitates avoidable certification by physicians of this department.

The law specifically puts the burden for prompt signing of such certificates upon the attending physician and for the benefit of those who are unfamiliar with this legal responsibility a quotation from Revised Laws 29, section 10 (as amended by 1910, 322-2), follows:

"A physician shall forthwith, after the death of a person whom he has attended during his last illness, at the request of an under-

taker or other authorized person or of any member of the family of the deceased, furnish for registration a standard certificate of death, stating to the best of his knowledge and belief the name of the deceased, his supposed age, the disease of which he died, defined as provided in section one of this chapter, where contracted, the duration of his last illness, when last seen alive by the physician and the date of his death. A physician who has attended at the birth of a child dying immediately thereafter, or a physician who has attended at the birth of a child born dead, shall forthwith furnish for registration a certificate, stating that to the best of his or her knowledge and belief such child either died immediately after birth or was born dead. Both the birth and death of such child shall be recorded and, if it was born dead, the word "stillborn" shall be entered in both the record of birth and death. A physician who neglects or refuses to make such certificate or who makes a false statement therein shall forfeit not more than fifty dollars."

DIAGNOSTIC SERVICE FOR TROPICAL AND EXOTIC DISEASES.

The Department of Tropical Medicine of the Harvard Medical School has organized, for the service of the public through the medical profession generally, a diagnostic laboratory affiliated with the Service for Tropical Diseases at the Boston City Hospital.

So far as the nature of the particular problem allows, final reports will be rendered on material sent to the Department of Tropical Medicine. When it is not practicable to make the diagnosis from material that can be sent, and the presence of the patient is necessary, unless the Health Department should deem it advisable to place the case elsewhere, the patient can be referred to the Service for Tropical Diseases at the Boston City Hospital where the necessary examination will be made either in the Out-Patient Department (Tuesday or Thursday mornings) or after admission to the ward-beds of the Service for Tropical Diseases. The necessary diagnostic procedures will then be carried on either at the Boston City Hospital or at the Harvard Medical School through the agency of the Department of Tropical Medicine.

A list of diseases in regard to which the Department of Tropical Medicine is prepared to advise as to prevention or diagnosis follows.

In a parallel column the appropriate laboratory methods of diagnosis are indicated.

Physicians are invited to write or to telephone to the Department of Tropical Medicine for information about its diagnostic service or about the best methods of obtaining material for examination.

TROPICAL AND EXOTIC DISEASES.

(Italicized diseases have been found in Massachusetts.)

SECTION I. PROTOZOAN DISEASES.	DIAGNOSTIC METHODS.
1. Malaria: <i>Tertian.</i> <i>Subtertian.</i> <i>Quartian.</i>	Examination of blood smears or fresh blood preparations.
2. Trypanosomiasis: <i>African sleeping sickness.</i> American trypanosomiasis.	Animal inoculations. Examination of blood smears or fresh blood preparations. Spinal fluid.
3. Leishmaniasis: <i>Kala-azar.</i> <i>Oriental sore.</i> American leishmaniasis.	Animal inoculations. Examination of scrapings from lesions. Examination of sections of tissue.
4. <i>Amoebiasis.</i>	Examination of fresh fæces.
5. Infection with: a. <i>Balantidium coli.</i> b. <i>Giardia intestinalis</i> (lamblia). c. <i>Trichomonas intestinalis</i> (cercomonas). d. <i>Chilomastix mesnili.</i>	Examination of fresh fæces. Examination of fresh fæces. Examination of fresh fæces. Examination of fresh fæces.
SECTION II. SPIROCHETAL DISEASES.	
1. <i>Yaws.</i>	Examination with dark field of serum from lesions and of stained preparations.
2. <i>Relapsing fever.</i>	Examination of fresh blood preparations and stained smears. Animal inoculations.
3. <i>Rat-bite fever.</i>	Dark field examination of fresh blood and of stained specimens.
4. Infectious jaundice.	Animal inoculations. Agglutination test with patient's blood. Urine examination.
5. <i>Yellow fever.</i>	Animal inoculations. Serum reactions. Examination of fresh blood and stained preparations.
SECTION III. BACTERIAL INFECTIONS.	
1. Plague.	Examination of blood cultures and cultures from material from gland puncture. Animal inoculations.
2. Tularensen infection (deer fly fever).	Examination of cultures of blood and material from glands. Animal inoculations.

SECTION III.—*Concluded.*

3. *Undulant fever.*
4. *Bacterial dysentery.*
5. *Cholera.*
6. *Leprosy.*

SECTION IV. INFECTIONS OF UNKNOWN ETIOLOGY.

1. *Typhus fever.*
2. Rocky Mountain spotted fever.
3. Inguinal granuloma. }
4. *Tropical phagedena.* }
5. Veldt sore. }

SECTION V. MYCETOMA.

1. *Madura Foot.* }
2. *Blastomycosis.* }
3. *Sporotrichosis.* }

SECTION VI. PARASITIC INFECTIONS.

1. *Filariasis.*
 - a. *Filaria bancrofti* (endemic elephantiasis).
 - b. *Filaria loa* (diurna).
 - c. *Onchocerca volvulus* (filaria volvulus).
2. *Distomiasis.*
 - a. Paragonimiasis (endemic hemoptysis).
 - b. Schistosomiasis.
 1. *Schistosomum hematobium* (vesical bilharziasis).
 2. *Schistosomum manconi* (rectal bilharziasis).
 3. *Schistosomum japonicum*.
 - c. *Clonorchiasis.*
 - d. Other liver flukes.
 1. *Fasciolopsis buski*.
 2. *Fasciola hepatica*.
3. *Ankylostomiasis* (hookworm, uncinariasis).

DIAGNOSTIC METHODS.

- Examination of blood cultures.
Agglutination test.
- Examination of cultures from fæces.
Agglutination test.
- Examination of cultures from fæces.
Agglutination test.
Pfeiffer's reaction.
- Microscopical examination of nasal secretion and scrapings from lesions.
- Agglutination reaction of Weil-Felix.
Pathological examination of skin.
- Animal inoculations with blood.
- Examination of smears from lesions.
Examination of sections of tissues.
- Microscopical examination of fresh and stained preparations from lesions.
Cultures from lesions.
- Examination of fresh and stained blood preparations.
- Examination of fresh and stained blood preparations.
- Examination of fresh and stained blood preparations and of sections of lesions.
- Examination of sputum for ova.
- Examination of urine or fæces for ova.
Complement fixation test with blood.
- Examination of fæces for ova.
- Examination of fæces for ova.
Examination of fæces for ova.
- Examination of fæces for ova or parasites.

SECTION VI.—*Concluded.*

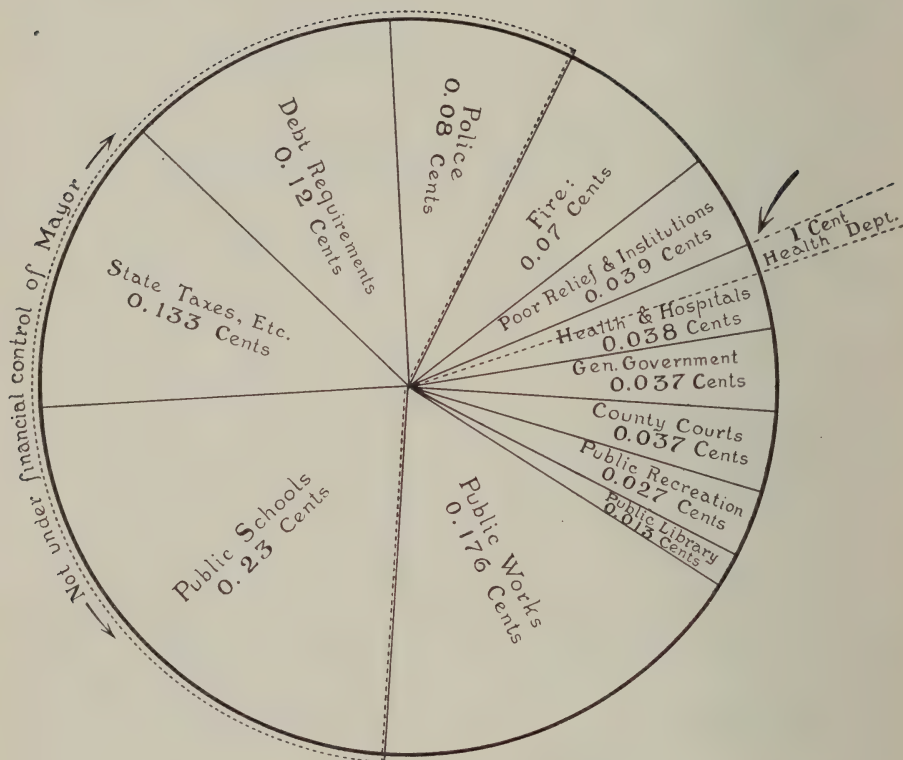
DIAGNOSTIC METHODS.

4. <i>Tænia infections.</i> <i>T. Echinococcus.</i>		Examination of pathological material. Agglutination test.
<i>Dibothriocephalus</i> (fish tapeworm.)	}	Examination of fæces for ova. Identification of parasites.
<i>T. Nana</i> (dwarf tapeworm).		
5. <i>Strongyloides.</i>		Examination of fæces.
6. <i>Myiasis.</i> Of nose. Of ear. Of <i>gastro-intestinal tract.</i>		Examination of discharges and identification of larvæ.

SECTION VII. OTHER DISEASES OF INTEREST TO THE DEPARTMENT.

1. *Sporadic elephantiasis.*
2. *Heat-stroke.*
Heat exhaustion.
Siriasis.
3. *Beriberi.*
4. *Scurvy.*
5. *Pellagra.*
6. *Sprue.*
7. *Smallpox.*
8. *Dengue.*
9. Chigger disease.
10. Acarine dermatomycosis.
11. Oroya fever.
12. *Verruga peruviana.*
13. Japanese river fever (Tsutsugamushi fever).
14. Pappataci or Phlebotomus Fever.
15. Black water fever.
16. Drachontiasis (Guinea-worm disease).

With the coming of the holidays come the rush and crowds of people in stores, street cars and trains, when the ventilation is probably at a minimum. For this reason if none other you should do your holiday shopping now.



HOW THE CITY DOLLAR WAS SPENT IN BOSTON, MASS.,
DURING THE FISCAL YEAR 1921-22.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING OCTOBER, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	8	15.09
7 days or less.....	2	3.77
8 to 14 days, inclusive.....	1	1.89
15 to 21 days, inclusive.....	2	3.77
22 to 31 days, inclusive.....	1	1.89
WITHIN FIRST MONTH.....	14	26.41
Within second month.....	1	1.89
Within third month.....	3	5.66
Within fourth month.....	3	5.66
Within fifth month.....	3	5.66
Within sixth month.....	1	1.89
Within seventh month.....	—	—
Within eighth month.....	1	1.89
Within ninth month.....	1	1.89
Within tenth month.....	—	—
Within eleventh month.....	1	1.89
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH.....	28	52.84
Within second year.....	7	13.21
Within third year.....	6	11.33
More than three years.....	12	22.64
Totals.....	53	100.02

DEATHS AND DEATH RATES FOR CERTAIN CITIES, OCTOBER, 1922.

CITY.	Popula- tion Esti- mated July 1, 1922.	DEATHS DURING WEEK ENDING				DEATH RATES DURING WEEK ENDING			
		Oct. 7.	Oct. 14.	Oct. 21.	Oct. 28.	Oct. 7.	Oct. 14.	Oct. 21.	Oct. 28.
Boston.....	764,017	208	192	204	223	14.2	13.1	13.9	15.2
Bridgeport, Conn.....	143,555	23	20	29	22	8.4	7.3	10.5	8.0
Cambridge.....	110,944	30	30	17	28	14.1	14.1	8.0	11.3
Fall River.....	120,790	37	31	23	36	16.0	13.4	10.8	15.5
Lowell.....	114,423	32	35	32	26	14.6	16.0	14.6	11.8
New Bedford.....	127,542	22	40	24	28	9.0	16.4	9.8	11.4
Providence, R. I.....	241,011	56	57	52	58	12.1	12.3	11.3	12.5
Springfield.....	140,052	25	30	31	27	9.3	11.2	11.5	10.1
Worcester.....	188,449	36	31	39	45	10.0	8.6	10.8	12.5

HEALTH DEPARTMENT.

Tel. Congress 5100.

Commissioner of Health	1109 City Hall Annex.
Secretary	1108 City Hall Annex.
Medical Division	1110-11 City Hall Annex.
Health Unit	17 Blossom street.
Detention Hospital	Southampton street.
Bacteriological Laboratory	1101 City Hall Annex.
Food Inspection Division	1001A City Hall Annex.
Inspection of Foodstuffs	1001A City Hall Annex.
Examination of Milk and Vinegar	1104 City Hall Annex.
Inspection of Dairies	1001G City Hall Annex.
Brighton Abattoir	Market street, Brighton.
Public Health Education	1108 City Hall Annex.
Sanitary Inspection Division	1001C City Hall Annex.
Abatement of Nuisances	1001B City Hall Annex.
Housing Service	1001C City Hall Annex.
Examination of Gas Fitters	1001C City Hall Annex.
Vital Statistics Records and Accounts Division	1112 City Hall Annex.
Permits for Burial	110 City Hall Annex.
Superintendent of Peddlers	27 North Grove street.

Office Hours.— General offices on the eleventh floor of the City Hall Annex, 9 a.m. to 5 p. m., excepting on Saturday afternoons, Sundays and holidays, for the transaction of business not specified below.

Room 110, City Hall Annex, first floor, open from 5 p. m. to 10 p. m., and Sundays and holidays from 10 a. m. to 10 p. m., for the reporting of cases of communicable diseases, the issuing of burial permits, the receiving of cultures and widals, and the receiving of complaints.

The distribution of vaccines and antitoxins will be from the laboratory between the hours of 9 a. m. and 6 p. m., excepting Saturday afternoons, Sundays and holidays.

Wassermann Tests, Etc.— The bacteriological laboratory is prepared to examine free of expense blood specimens by the Wassermann test for syphilis. Tests are made each Tuesday, Wednesday, Thursday and Friday. Blood is drawn from patients in the laboratory each Monday, Tuesday, Wednesday and Thursday from 2 to 4 p. m.

Dark Field Illumination.— The bacteriological laboratory is prepared to examine free of expense at the request of physicians lesions suspected of being syphilitic, by dark field illumination. Tests are made every afternoon between 2 and 4 p. m., except Saturdays, Sundays and holidays.

STATISTICS FOR 1921.

Population 757,634			
Live Births 19,397	Birth rate (live births)	25.60	
Deaths 10,217	Death rate	13.49	

The deaths and death rate stated above cover all deaths occurring in Boston, of nonresidents as well as of residents.

SUMMARY OF THE WORK, OCTOBER, 1922.

BUREAU OF ADMINISTRATION.

	Oct.	Sept.		Oct.	Sept.
Conferences	0	0	Special drafts	1	0
Hearings	0	0	Contracts approved	0	0
Prosecutions ordered	18	0	Personnel:		
Orders	0	0	Appointments	6	0
Lodging houses certified, ...	0	0	Appointments made permanent	1	0
Dump applications:			Promotions	1	0
Disapproved	0	0	Offensive trades licensed, ...	0	0
Approved	3	0	Forcible removals	0	0
Revoked	0	0	Buildings ordered demolished	0	0
Lying-in hospitals approved	1	0			

LICENSES, PERMITS, ETC., ISSUED.

	Oct.	Sept.		Oct.	Sept.
Burial permits	1,027	899	Manicure-massage:		
Disinterment permits	39	8	Granted	22	43
Milk licenses	194	117	Beverage establishments licensed	2	3
Peddler's licenses, general	38	65	Grease	0	0
Hen licenses granted	81	49	Dumps	3	1
Stable permit granted	1	0	Sundry	4	0
conditionally	0	0	Day nurseries	1	0
Denatured alcohol licenses	5	1			

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Oct.	Sept.		Oct.	Sept.
Visits by medical inspectors	908	1,707	Vaccination certificates	13	292
Deaths investigated	8	12	Cases brought to Boston for treatment	101	69
Vaccination	32	517	Antitoxin administered, ...	5	68

NURSING SERVICE.

	Oct.	Sept.
Communicable disease visits	2,071	1,808
Babies visited, first visit	1,022	725
Revisits	1,541	2,580

HEALTH UNIT (Blossom Street).

	Oct.	Sept.
Health Department proper:		
Vaccinations	44	409
Vaccination certificates issued	42	386
Cases visited by nurses:		
Communicable diseases	141	151
Complaints made of unsanitary conditions	28	20

	Oct.	Sept.		Oct.	Sept.
Baby Hygiene Association:			Conferences:		
Babies cared for	347	340	Number	8	7
Babies newly admitted	21	28	Total attendance	417	336
			Home visits by nurses, ...	485	495
				Oct.	Sept.
Boston Dispensary:					
Calls by district physician from Boston Dispensary				47	39
Consumptives' Hospital Department:					
Calls by nurses in districts				758	758
Instructive District Nursing Association:					
Visits by nurses				1,897	1,750
Jewish Welfare Center:					
Conferences held				5	2
Number of children attending conferences				86	44
Visitors:					
City				18	15
Out of city				0	0
General:					
Number of persons applying for information :				210	322
Pre-natal classes				4	4

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Oct.	Sept.
New reports	2,475	2,451
Stores inspected	3,883	3,609
Sanitary defects remedied	411	367
Complaints at office	40	50
Referred to Sanitary Division	55	54
Milk applications approved	148	136
Street stands inspected	12	22
Peddlers:		
Applications for licenses approved	40	67
Vehicles inspected and approved	597	746
Court cases	5	11
Fines	\$60	\$43 65

CONDEMNATIONS.

WITHOUT REQUEST.			
Chicken	23 pounds	Herring (salt)	100 pounds
Currants	10 pounds	Poultry	99½ pounds
Deer	200 pounds	Pork	5 pounds
Dried peaches	10 pounds	Salt fish	10 pounds
Frankfurters	½ pound	Steak	3 pounds
Grapes	621 lugs	Sweetbread	1 pound
Ham	3½ pounds	Veal	219 pounds
Hamburger	4 pounds		

LIVE STOCK INSPECTION (Brighton Abattoir).

	Oct.	Sept.		Oct.	Sept.
Cattle inspected . . .	204	175	Parts condemned . . .	411	405
Calves inspected . . .	241	169	Animals condemned . . .	10	9
Swine inspected . . .	6,228	4,807			

DAIRY DIVISION.

	Oct.	Sept.		Oct.	Sept.
Total inspections . . .	988	940	With milk rooms . . .	339	314
Dairies inspected . . .	532	515	Without milk rooms . . .	193	201
Scoring above 50* . . .	407	341	Inactive . . .	156	167
Scoring below 50 . . .	125	164	Total cattle inspected . . .	6,961	6,539

* Passable mark.

BUREAU OF MILK INSPECTION.

	Oct.	Sept.		Oct.	Sept.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,267	1,200	Milk	720	558
Ice cream	0	87	Ice cream	41	87
Vinegar	198	81	Court cases	23	61
Miscellaneous	5	8	Fines	\$320	\$685

SANITARY INSPECTION.

	Oct.	Sept.		Oct.	Sept.
Original inspections . . .	1,865	2,137	Car reports	28	160
New report	2,636	2,582	Complaints	797	893
Reinspections	6,829	5,631	Court cases	7	25
Legal notices served . . .	323	335	Fines	\$180.20	

BACTERIOLOGICAL LABORATORY.

	Oct.	Sept.
Examinations for diagnosis and release:		
Diphtheria	1,466	1,023
Tuberculosis	232	265
Typhoid	68	79
Gonorrhea	681	708
Gonorrheal ophthalmia . . .	41	56
Syphilis	990	977
Other examinations	* 28	41
Bacteriological examinations of milk	727	629
Bacteriological examinations of ice cream	43	85
Examination of rats	0	509
Special K. L. examinations	72	1,406

* Smear from abscess of face (1); cheese for poison (1); paratyphoids (8); blood for typhus (1); flaxseed for foreign matter (3); curetting from sternum for T. B. (1); smear for G. C. (1); flies for classification (1); genito-urinary T. B. (2); urine for typhoid (1); feces for typhoid (1); dog for rabies (1); cat for rabies (1); pus from abscess of face (1); virulence tests (2); dark field examinations (2).

It is better to pay the price of one visit to a physician for diagnosis than try to diagnose your ills and buy bottles of medicine that many times not only do no good but often times harm; when in doubt about your physical condition consult your physician.

VITAL STATISTICS, OCTOBER, 1922.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING OCTOBER,
1922, WITH COMPARATIVE FIGURES FOR OCTOBER, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	899	790	+109	14.12	12.51	+1.61
Nonresidents deducted.....	733	640	+93	11.51	10.14	+1.37
BY AGE:						
Under one year.....	139	103	+36	2.18	1.63	+ .55
One year to four years, inclusive.....	55	35	+20	.86	.55	+ .31
Sixty years and over.....	311	287	+24	4.88	4.54	+ .34
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	50	37	+13	.78	.59	+ .19
Arterio-sclerosis.....	43	32	+11	.67	.51	+ .16
Heart disease.....	120	125	—5	1.88	1.98	— .10
Nephritis, chronic.....	50	46	+4	.78	.73	+ .05
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,587	1,539	+48	24.92	24.37	+ .55
b. Registered stillbirths.....	52	51	+1	.81	.81	.....
Stillbirths per 1,000 births and stillbirths,.....				31.72	32.07	— .35
c. Deaths of mothers from causes incident to childbirth.....	11	9	+3	.17	.14	+ .03
Deaths of mothers per 1,000 births and stillbirths.....				6.71	5.66	+1.05
d. Deaths of children in first year of life...	139	103	+36	2.18	1.63	+ .55
Deaths in first year per 1,000 live births,.....				87.59	66.92	+20.67
VIOLENCE:						
Accidents.....	65	51	+14	1.02	.81	+ .21
Homicides.....	1	.....	+1	.016	.....	+ .01
Suicides.....	9	9	.....	.14	.14	.....
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	11	8	+3	.17	.13	+ .04
Broncho-pneumonia.....	36	28	+8	.56	.44	+ .12
Cancer.....	85	87	—2	1.33	1.38	— .05
Cirrhosis of the liver.....	4	4	.....	.06	.06	.....
Diabetes mellitus.....	25	15	+10	.39	.24	+ .15
Diarrhoeal diseases, children under two years of age.....	35	22	+13	.55	.35	+ .20

REPORTABLE ILLNESS, AND DEATHS IN BOSTON, OCTOBER, 1922.—Concluded.

		CASES AND DEATHS.					
		ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
		1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:							
Anterior poliomyelitis.....	Cases...	7	2	+5	.11	.03	+.08
	Deaths..	1	1	.....	.016	.016	.....
Cerebro-spinal meningitis.....	Cases...	2	5	—3	.03	.08	— .05
	Deaths..	2	4	—2	.03	.06	— .03
Diphtheria.....	Cases...	269	199	+70	4.22	3.15	+1.07
	Deaths..	15	10	+5	.24	.16	+.08
Influenza.....	Cases...	7	5	+2	.11	.08	+.03
	Deaths..	.....	1	—1	.....	.16	— .016
Measles.....	Cases...	143	91	+52	2.25	1.44	+.81
	Deaths..	2	.....	+2	.03	.....	+.03
Pneumonia (lobar).....	Cases...	76	50	+26	1.19	.79	+.40
	Deaths..	29	32	—3	.45	.51	— .06
Scarlet fever.....	Cases...	119	109	+10	1.87	1.72	+.15
	Deaths..	1	.....	+1	.016	.....	+.016
Tuberculosis (pulmonary).....	Cases...	155	131	+24	2.43	2.07	+.36
	Deaths..	59	55	+4	.93	.87	+.06
Tuberculosis (other forms).....	Cases...	22	31	—9	.34	.49	— .15
	Deaths..	4	6	—2	.06	.09	— .03
Typhoid fever.....	Cases...	21	24	—3	.33	.38	— .05
	Deaths..	1	6	—5	.01	.09	— .08
Whooping cough.....	Cases...	188	12	+176	2.95	.19	+2.76
	Deaths..	13	.....	+13	.20	.....	+.20

This table includes all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated populations for July, 1921, and 1920, based upon the federal census of 1920 have been used.

Cancer caused 1,056 deaths in Boston last year; and since 1915 there have been 6,493 deaths in Boston from this disease. A physical examination in time may save or lengthen your life.

Germes of tuberculosis will not survive for any length of time when exposed to the sun's rays; get a maximum of sunshine whenever you can and let the sunshine pour into your living rooms.

DO NOT DESTROY.

When you have no further use for this
Bulletin give it to someone else.

MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, NOVEMBER, 1922.

NO. 11

RECENT EXPERIMENTS IN THE TREATMENT OF DIABETES.

Reference has recently been made in the newspapers to the discovery of a "serum" which will cure diabetes. Unusual attention has been attracted to this so-called discovery by reason of the fact that Dr. Alfred Stengel of the University of Pennsylvania has been quoted in the newspapers as saying that the "serum" had been demonstrated to be a specific cure for diabetes. In a letter to the Philadelphia *Ledger* Dr. Stengel denied that he ever made such a statement and referred to the matter as a form of treatment of diabetes as yet in an early experimental stage.

The foundation for the report of the discovery of a cure for diabetes is as follows:

According to the generally accepted theory of the causation of the usual case of diabetes the symptoms of the disease result from the inability of the body to utilize the sugar after it is formed in the body because of the failure of the pancreas gland to supply to the body some thing — a sort of regulator — which enables the body to utilize properly the sugar formed within the body to meet its nutritional needs. Acting on this theory experimenters from time to time have endeavored to obtain from a normal animal pancreas gland an extract which might artificially supply the needed "regulator" if administered to a diabetic patient.

Among those who have endeavored to obtain such an extract from the pancreas are Prof. J. J. R. MacLeod and his associates at the University of Toronto and the recent newspaper reports of a diabetes cure are based on the results of the experiments of this Toronto group. Their experiments are encouraging in that they

have succeeded in producing a pancreatic extract which apparently has the power of affecting sugar metabolism in animals and in man. This extract apparently produces its effects by acting directly upon muscle and other bodily tissues and enabling them to take up and utilize more sugar, withdrawing it from the blood. The use of the extract has been carried beyond the animal experimentation stage, the extract having been used in connection with the actual treatment of diabetic patients in hospitals. The result is understood to encourage the hope that a means of controlling the symptoms of diabetes may have been found, but no conclusions have as yet been announced. The men who are carrying on this work are naturally cautious. We are none too sure that our theories as to the causation of diabetes are correct, and even if they be substantially so, it would seem that the new pancreatic extract could hardly be expected to act as a cure for diabetes, but rather as a therapeutic agent whose sphere of usefulness would be somewhat analogous to the use of thyroid extract in the treatment of conditions due to deficient or defective secretions of the thyroid gland.

SCABIES.

Coincident with the closer contact of individuals due to winter housing conditions, especially among the poor, where all are huddled together, there is always an increase of that contagious, parasitic dematosis called scabies. Although scabies is one of the most common diseases seen in the out-patients of the various hospital clinics, comprising as it does according to the statistics of the American Dermatological Association, 5 per cent of all cases, no class of patients is exempt. The disease attacks the cleanly and in this class of patient it is often not recognized, and may persist for a long time on account of the fact that appropriate treatment is not applied.

It is a disease of the upper layer of the skin due to the feeding and breeding of the fertilized female of the *sarcoptes scabii*, which is a flattened, oval shaped spider about one fourth of a millimeter in size and having eight legs. The female generally becomes impregnated at night and then slowly burrows her way into the epidermis, leaving behind her eggs which she deposits at the rate of one or two a day, until she has formed a "cuniculus" or burrow, which may be from one eighth to one half an inch in length. These ova hatch in about four to eight days, and reach the adult stage in about a month. The males, which are smaller than the females, do not live in burrows and therefore are very difficult to find.

The finding of the female in a cuniculus, though almost impossible in the usual cleanly type of private practice, is generally easy in

hospital clinics. The burrow, which is generally a tortuous channel running parallel with the surface of the skin, has a frayed opening; it is usually about one-fourth inch in length and with an ordinary hand lens, one can see at the extreme end of the burrow a small glistening greyish speck, just in front of a tiny vesicle, and by using a square needle, running it parallel to the skin surface then entering the burrow at the site of the vesicle, the female scaroptes may be scraped from the burrow onto the needle, and thence to a slide for microscopic confirmation. The best burrows for examination are those found between the fingers and on the anterior surfaces of the wrists.

The finding of the parasite of course determines the diagnosis, but since it is found in only a small percentage of the cases, the diagnosis is not always an easy one to establish. All doubtful cases of pruritus should be examined with scabies in mind. The history is often the only diagnostic sign. In the extremely cleanly type of patient there may be absolutely no visible sign, but with a history of itching from twilight to midnight, it is well to treat this patient for scabies, that is. of course, if after careful physical examination no other cause can be found. If in addition there is obtained a history of itching in other members of the family or in those with whom the patient has had immediate personal contact there is then fairly definite proof that scabies is present.

The eruption may consist of papules and vesicles which have been scratched with resulting excoriations, crusting and pustulation. The distribution is between the fingers, on the anterior surfaces of the wrists, the extensor surfaces of the forearms, the anterior axillary folds, the mid abdomen, the lower half of the buttocks, and the penis. In infants, however, there is no definite distribution for in them, it may be universally distributed over the body often on the face or scalp, especially in nursing babies who contract it from the mothers, and very frequently on the soles.

Although scabies is not a serious disease as regards prognosis, still this disease is of importance from an economic point of view. The discomfort and loss of sleep incident to this disease render the individual less efficient in his daily work, and also enhance the danger of accidents to which the workers of the industrial world are exposed.

Scabies never disappear without appropriate treatment. For a cure, it is necessary to destroy the parasite and its ova, secondly to prevent reinfection by proper sterilization of everything that comes in contact with the patient's body, thirdly to subdue the inflammation due to the disease, and lastly to allay any irritation which may be caused by the treatment. One of the best drugs for treatment is sulphur. The routine adopted by the Skin Clinic of the Massa-

chusetts General Hospital is very successful and has rarely ever caused the frequently resulting dermatitis. All the patients are given a card which reads as follows:

THE TREATMENT OF SCABIES.

"All members of the family who itch and all who have slept with a person who itches, must be treated at the same time, if the family wishes to secure a permanent cure and to prevent reinfection." Treat as follows:

Take a good hot bath, using Ivory soap and scrubbing the body carefully all over with a brush for fifteen minutes. After the bath rub thoroughly into the body, from chin to toes, the ointment, which consists of the following formula.

Adeps hanae, 3iii; petrolat, 3i; naphtholis, 3ss; sulphuris sublimati, 3i; balsanii peruviani, 3iv.

Do not rub ointment on face or scalp. Repeat this treatment three nights in succession being careful to take a good hot bath and scrub before applying the ointment. It is not necessary to change night gown or sheets or underclothes. On the fourth morning you must have clean clothes to put on, also clean bed clothes. Be sure that these clothes have been thoroughly boiled and pressed. Take all your soiled clothes, sheets, pillow cases and towels, and put them in a boiler or large pan on the stove and boil for twenty minutes. Everything that cannot be boiled, as blankets, quilts, outside clothing, must be pressed twice with a hot iron.

Children from three to twelve years of age are given the above ointment in half strength. Babies under three years of age are given a mixture of equal parts of Balsum of Peru mixture and vaseline. They must do their treatments five nights instead of three. Babies should have ointment applied to face and scalp as well as to the body. The baths are given the same way, and the clothes treated as above. Patients return to the hospital in two weeks for examination. If the patients still itch after the treatments, they are advised to take the following bath and to discontinue the ointment until again advised. The bath is a starch bath and the following are the directions for making it. Use sufficient cold water to dissolve a half-box of corn starch. To this solution add one quart of boiling water. Pour this mixture into a half a tub of warm water. Patients should remain in this bath about ten minutes.

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Textbook of Dermatology.	Darier-Pollitzer.
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REMOVAL AND TRANSPORTATION OF GARBAGE, OFFAL AND OTHER OFFENSIVE SUBSTANCES THROUGH THE STREETS OF BOSTON.

"AN ACT PROVIDING FOR THE REGISTRATION OF COLLECTORS OF GARBAGE, OFFAL AND OTHER OFFENSIVE SUBSTANCES."

Be it enacted, etc., as follows: (Chapter 358, Acts of 1921).

"SECTION 1. Chapter one hundred and eleven of the General Laws is hereby amended by inserting after section thirty-one the following new section. *Section 31 A.* Any person may remove or transport garbage, offal or other offensive substances through the streets; provided that he shall first register with the local board of health, the fee for which registration shall not exceed two dollars; and provided, further, that he shall remove and transport the material herein mentioned in accordance with such reasonable rules and regulations as may be established by said board.

"SECT. 2. Nothing contained in this act shall be construed to impair the obligation of any existing contract for the removal or transportation of garbage, offal or other offensive substances." (Approved May 3, 1921).

This law gives to any one who registers with the local Board of Health and pays the registration fee the right to remove or transport garbage through the streets of Boston, provided he does so in accordance with such reasonable rules and regulations as the local Board of Health adopts. If the rules and regulations which are promulgated under this authority are complied with by any person making application, the Board of Health is then required to register him upon his payment of the fee. August 14 last this department adopted rules and regulations for the removal and transportation of garbage through the streets of Boston — for a copy of which see the Monthly Bulletin for August, 1922, pages 118-119.

The private collecting agencies will ordinarily collect garbage from particular places, and transport it directly to some private establishment where it will be disposed of or utilized in such way as not to be prejudicial to good health. The methods used in the collection and transportation of the garbage must be so supervised that there will be no irregularity of collection. The private agency cannot expect to collect only as suits its own convenience, and that the city will make collections when it lapses. Collections by private agencies must be made regularly or not at all.

The contract of the disposal company with the city calls for the disposal of such garbage as is delivered to it at certain specified points. The garbage, after delivery, is to be disposed of in such manner as to prevent the escape of disagreeable odors, and under

such conditions as not to be detrimental to public health or in any way constitute a nuisance. The garbage that is collected by the private agencies will of course be delivered for disposal by the city contractor. Thus, the contractor will have just so much less garbage to dispose of, and so much less to contend with in the way of elimination of objectionable odors, and in the prevention of sources of nuisance. The advantage gained by the private collecting agencies in the collection of garbage, house offal or other offensive substances, and transporting them through the streets of Boston to a place of disposal, for private gain, will react also to the advantage of the city disposal company, inasmuch as the latter will have just so much less garbage delivered to it by the city for disposal without nuisance; and since the purpose of the contract is to secure the disposal of collections of city wastes, comprising garbage and refuse, in a sanitary and inoffensive manner, the purpose will thus be more easily carried out.

With all of these conditions in mind the Health Commissioner has regulations which will adequately protect the interests of all concerned. The vehicles and receptacles used by the private collecting agencies will be originally examined to determine their fitness for the purpose desired, and will thereafter be inspected regularly to insure their continued fitness for this purpose. The Health Department will know the places from which, and the places to which the garbage is to be removed, and the time of removal, and in this way be enabled to regulate the removal and transportation in the interests of the public health. And the fact that all garbage, and other offensive substances offered for removal to private collecting agencies by persons contracting with them, must be removed, without selection, will enable the city to rely upon the adequacy of collections from the places entering into agreements with private collectors.

A FEW WARD FIVE STATISTICS.

An analysis of recent morbidity and mortality statistics in Ward 5, within which, in the North End section, the next Health Unit is to be established, shows the advisability of the selection of this location over others because of the peculiar need of this section of the city for health instruction, supervision, assistance and special treatment.

In 1921 the population of Ward 5 was estimated to be 64,075, or 8.45 per cent of the population of the entire city, which was 757,634. The City of Boston covers approximately 27,870 acres of land, of which only 750 acres are in Ward 5. The population density, that is, the number of persons per acre for the entire city, in 1921, was 26.9, whereas for Ward 5 alone it was 85.4.

A comparison of the cases and deaths from the reportable diseases occurring in the entire city and in Ward 5, with the per cent of the latter to the former total, in 1921, may be shown as follows:

DISEASES.		Entire City.	Ward 5.	Per Cent Ward 5 to City Total.
Diphtheria.....	{Cases... Deaths..	2,992 148	282 8	9.42 5.40
Pulmonary tuberculosis.....	{Cases... Deaths..	2,177 760	215 76	9.87 10.00
Scarlet Fever.....	{Cases... Deaths..	1,999 53	146 4	7.30 7.54
Measles.....	{Cases... Deaths..	3,396 38	269 11	7.92 28.94
Whooping cough.....	{Cases... Deaths..	689 33	52 3	7.54 9.09
Typhoid fever.....	{Cases... Deaths..	142 24	33 1	23.23 4.16
Total (reportable).....	{Cases... Deaths..	11,395 1,056	997 103	8.74 9.75

There were 19,397 live births in Boston in 1921, of which 2,039 occurred in Ward 5. The nativity of the mothers in the 2,039 births was as follows:

Mother Nativity.	Number.	Mother Nativity.	Number.
Italy	1,188	Scandinavia	2
Russia and Poland	322	Germany	1
United States	241	Other countries	206
Austria	51	Unknown	2
Ireland	10		
England and Wales	8	Totals	2,039
Canada	5		
Scotland	3		

In 1920, latest available figures, the children population in the age periods indicated was as follows:

AGE PERIOD.	Entire City.	Ward 5.	Per Cent in Ward 5.
Under seven years.....	97,870	11,878	12.13
Seven to thirteen years, inclusive.....	88,524	8,953	10.11
Fourteen and fifteen years, inclusive.....	22,481	1,958	8.70
Sixteen and seventeen years, inclusive.....	22,616	1,872	8.27
Totals.....	231,491	24,661	10.65

In 1921 there were 10,220 deaths from all causes in the city, of which 710 occurred in Ward 5. In the entire city there were

1,495 deaths of children in the first year of life, of which 144 or 9.63 per cent occurred in Ward 5.

Infant mortality from the principal causes in Ward 5 since 1917 are shown in the following table:

CAUSE OF DEATH.	1917.	1918.	1919.	1920.	1921.
Measles.....	9	3	3	10	4
Scarlet fever.....	1			1	
Whooping cough.....	1	5	5	10	
Diphtheria.....		5	3	3	5
Influenza.....	1	22	13	2	
Erysipelas.....		3	5	3	1
Other epidemic diseases.....	2				
Purulent infection, septicemia.....	1				
Tuberculosis of the lungs.....	2			1	
Acute miliary tuberculosis.....			1		
Tuberculosis meningitis.....		2	3	2	3
Rickets.....	1		1		
Syphilis.....	10	5	6	3	
Simple meningitis.....	1	3			2
Cerebrospinal meningitis.....	1	2	1		2
Cerebrospinal fever.....	2	3			1
Acute anterior poliomyelitis.....			1		
Infant convulsions.....			1	1	1
Other diseases of nervous system.....		1	1		
Diseases of the ears.....				3	2
Acute endocarditis.....		1		1	
Diseases of lymphatic system.....		1	2		1
Diseases of larynx.....	1				
Acute bronchitis.....	8	14	11	7	16
Broncho-pneumonia.....	49	35	34	43	25
Lobar-pneumonia.....	31	18	16	13	6
Pleurisy.....	2				
Diarrhœa and enteritis.....	29	27	33	29	14
Hernia, intestinal obstruction.....	2	2	3	3	2
Simple peritonitis.....	1				
Acute nephritis.....	2	2	1		
Other diseases of kidneys.....	1		1	1	1
Acute abscess.....			2		1
Other diseases of skin and annexa.....				1	
Diseases of bones.....		1		1	
Hydrocephalus.....	1	2	4	1	1
Congenital malformations of the heart.....	8	6	4	6	5

CAUSE OF DEATH.	1917.	1918.	1919.	1920.	1921.
Other congenital malformations.....	3	4	5	4	2
Premature birth.....	39	45	23	17	23
Congenital debility.....	20	14	9	11	.....
Other causes of early infancy.....	11	3	13	13	17
Injuries at birth.....	9	9	9	9	11
All other causes.....	6	3	3	4	8
Totals.....	255	241	217	206	144

It is hoped that a great majority of these deaths that have occurred year after year may in the future be prevented through the medium of the health unit which will offer medical assistance to mothers and afford class instruction in prenatal care, and supervise clinics for caring for the mother and the new-born baby.

ARE YOU TAKING NASAL CULTURES?

The experience of the Boston Health Department emphasizes more strongly every year the practical importance of nasal discharges as a factor in spreading diphtheria. We have come to hunt for a child with a "sore nose" who is playing with other children when looking for the cause of a neighborhood outbreak of diphtheria, and we expect to see new cases cease when we have succeeded in finding some child, probably itself immune, with a scabby nostril in which it is maintaining a diphtheria culture and distributing Klebs-Loeffler bacilli among its playmates. A second case of diphtheria occurs in a family and is naturally ascribed to infection from the first case, but investigation shows that both are due to a nasal carrier of diphtheria who was not detected because only the throats of other members of the household were cultured when the first case was recognized.

A susceptible person may remain in comparatively close association with a case of diphtheria for an astonishingly long time without becoming infected, and a rapid local development of cases of diphtheria is always suggestive of the spread of the disease by a nasal carrier since nasal secretions are more likely to be spread about by soiled hands or other objects that are secretions from the throat.

If a case of diphtheria or a clinically suspicious case is found all the other members of the household or office should be immediately cultured and cultures should be invariably taken of both nostrils as well as the throat.

Light rays from an incandescent electric lamp of high candle power has been found to be very efficacious in treating chronic suppurative otitis media in young children.

A SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of the November survey made of market milk sold in Boston by dealers and chain stores. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat.

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Alden Brothers Company.....	12.66	3.71	38,000
Anderson, Oscar A.....	12.54	3.73	120,000
Antetomasso, Peter.....	12.64	3.55	58,000
Barron, Clarence W.....	14.00	5.00	6,000
Barrow, Fred G.....	12.20	3.61	30,000
Barry, Michael F.....	12.84	4.06	20,000
Bemis, Henry G.....	12.54	3.83	32,000
Bergman, John H.....	12.78	3.88	16,000
Bowditch, E. F., Estate.....	12.36	3.83	16,000
Brandley, T. J. & P. J.....	12.26	3.85	19,000
Brandon Farms Milk Company.....	12.26	3.63	111,000
Brookdale Creamery.....	12.61	3.72	76,000
Burns, James.....	12.53	3.83	15,000
Casey, James D.....	12.55	3.83	206,000
Cashin, James F.....	12.77	3.95	46,000
Chapin, George L.....	12.78	3.90	43,000
Childs Brothers.....	12.11	3.46	23,000
Clark, Levi.....	12.39	3.70	48,000
Cohen, Benjamin.....	12.68	3.90	14,000
Connolly, Michael.....	12.53	3.92	140,000
Corkery, John H.....	12.22	3.50	35,000
Creedon & Crowell.....	12.55	3.66	89,000
Cummings, F. S., Company.....	12.32	3.61	26,000
Cunningham, Paul.....	12.40	3.68	248,000
Cusick, William H.....	12.36	3.75	353,000
Deerfoot Farm Milk Company.....	12.68	3.86	14,000
Denehy, Timothy.....	13.04	4.25	16,000
DiMaura, Gaetano.....	12.40	3.80	78,000
Driscoll, William B., Company.....	12.64	3.80	9,000
Duggan Brothers.....	12.61	3.76	59,000
Edgerly, Frank S.....	12.40	3.73	133,000

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Elm Spring Farm Milk Company.....	12.24	3.55	71,000
English, John.....	13.03	3.96	91,000
Ferguson, Malcolm D.....	12.60	3.90	62,000
Garvin, Charles E.....	13.10	4.60	14,000
Giroux, J. E., & Co.....	12.38	3.70	18,000
Griffin, Joseph L.....	12.52	3.65	9,000
Griffin Brothers.....	12.48	3.73	341,000
Gushee, W. S. & C. W.....	12.45	3.60	20,000
Hager, J. M., & Sons.....	12.48	3.66	53,000
Hancock, T. G., & Co.....	12.76	4.00	76,000
Herlihy Brothers.....	12.77	3.86	31,000
Hickey, M. J.....	12.76	3.93	86,000
Holden, John E.....	12.74	3.88	37,000
Hood, H. P., & Sons, Inc.....	12.42	3.78	86,000
Jones, William T. Co., Inc.....	12.62	3.53	21,000
Kendall Brothers.....	12.37	3.63	188,000
Kennedy, Robert J., Jr.....	12.68	3.83	27,000
Kingston, Samuel.....	12.68	4.11	21,000
Klaw & Freeman.....	12.52	3.60	19,000
Knapp, George J.....	12.56	3.85	20,000
Lang, Michael.....	11.79	3.35	116,000
Larkin, Patrick.....	13.41	4.30	33,000
Larsson, Charles.....	12.50	3.60	13,000
Lesser, Joseph.....	12.06	3.36	220,000
Lincoln Farms, Inc.....	12.62	4.13	17,000
Lubin, Felix.....	12.18	3.63	38,000
Lyndonville Creamery Company.....	12.66	3.50	65,000
Magee, Nellie A.....	12.77	3.65	49,000
Manning, Peter E.....	12.78	3.80	93,000
Maple Farm Milk Company.....	12.26	3.50	116,000
McAdams, John F.....	12.39	3.66	140,000
McKernan, John.....	12.60	3.76	34,000
Mekosky, Henry L.....	12.45	3.63	96,000
Morgan, George D., & Sons.....	12.71	4.30	36,000
Moore, Peter.....	12.24	3.50	220,000
Munchbach, George.....	12.39	3.61	72,000
Nelson & Bennison.....	12.60	3.78	53,000
Newton & Pope.....	12.94	4.00	65,000

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Noble, William F., & Sons.....	12.76	3.98	18,000
O'Shaughnessy, Patrick.....	12.35	3.68	238,000
Plymouth Creamery System.....	12.75	3.95	21,000
Pond, Harvey T.....	12.74	3.98	16,000
Raycraft, Benjamin F.....	12.76	4.10	12,000
Robbins, Frank E.....	12.75	3.91	8,000
Robinson, A. J.....	13.02	4.04	32,000
Robinson, James A.....	12.59	3.86	80,000
Runkle, John C.....	13.00	4.18	39,000
Schuster, Adam.....	12.66	3.71	25,000
Seven Oaks Dairy Company.....	12.66	3.86	59,000
Shattuck, Milo P.....	12.70	3.90	12,000
Shick, Jacob.....	12.54	3.81	494,000
Smith & Lynch.....	12.50	3.62	44,000
Somerset Farms Milk Company.....	13.22	4.36	148,000
Sterling Farms Milk Company.....	12.50	3.61	18,000
Stone, Harvey T.....	12.46	3.71	32,000
Stuart, Wallis E.....	13.03	3.95	7,000
Sullivan, John D.....	12.73	4.12	12,000
Sullivan, John L.....	12.78	4.05	13,000
Tessicini, Lcreto.....	12.14	3.50	216,000
Toothaker Brothers.....	12.59	3.86	12,000
Turner Centre System.....	12.85	3.91	7,000
Upland Farm Milk Company.....	13.82	4.48	13,000
Vartanian, Setrag.....	12.42	3.66	69,000
Walker-Gordon Milk Company.....	12.72	3.96	8,000
Ware, George H.....	12.71	3.90	23,000
Warren, Cornelia.....	13.26	4.40	105,000
Weiler, E., & Sons.....	12.72	3.86	36,000
Werner, Ferdinand Company.....	12.48	3.71	82,000
Westwood Farm Milk Company.....	12.50	3.63	11,000
White Brothers.....	12.49	3.76	30,000
Whiting Milk Companies.....	12.50	3.71	193,000
Whittemore, Warner D.....	12.67	3.63	11,000
Winer, Morris.....	12.74	3.68	49,000
Wiswall, Granville A.....	12.47	3.60	28,000
Wittenberg & Co.....	12.83	4.00	164,000

CHAIN STORE MILKS.

NAME OF DEALER.	Supplied By.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	H. P. Hood & Sons, Inc....	12.59	3.82	35,000
John T. Connor Company.....	Bellows Falls Co-operative Creamery Company.	12.60	4.01	308,000
Co-operative Grocery Company,	J. M. Hagar & Sons.....	12.55	3.68	33,000
Economy Grocery Company....	Plymouth Creamery System Inc.	12.77	3.95	40,000
Morgan Brothers Company.....	Whiting Milk Companies...	12.40	3.65	205,000
M. O'Keeffe, Inc.....	J. M. Hagar & Sons.....	12.54	3.73	68,000

OBLIGATION OF PHYSICIANS TO REPORT BIRTHS.

Physicians are obliged by law to make a preliminary report of every birth they attend within forty-eight hours after such birth, and a complete report of such birth must be in the office of the City Registrar within fifteen days after the birth.

The importance of a birth record is of tremendous importance during the life of an individual, and if physicians would but realize this importance, they would not procrastinate in this almost solemn obligation.

The year is now drawing to a close and physicians should file at once every birth record that has not been reported this year. It might be well to look over your records for the past year to see if there is not a possibility wherein one or two births have not been reported to the City Registrar of Boston.

Your policy should be to report all births at once, and it is a good time to start now. Don't wait until the City Registrar reviews his records or data for the year and calls you to account for any neglect.

HOLIDAY POULTRY.

During the past month the outstanding task of the food inspectors naturally hinged about Thanksgiving Day and the heavy demands it entailed on the inspectors in the supervision of poultry arrivals. Particularly on the Tuesday preceding Thanksgiving and until late Wednesday evening, this task of supervision was tremendous; and practically the entire field force of food inspectors was congregated in the market district and the suburban districts, on the alert that the Thanksgiving offerings to the public were in every particular wholesome and sound.

That the supervision of the city's sales was successful to a gratifying degree is evidenced by the fact that only one complaint from a purchaser of Thanksgiving poultry was received at this office; and in this case the defect in the poultry complained of could only be discovered by very close inspection. It is but fair to the dealers, however, to say that the quality of poultry on sale ran unusually high, and little more than one hundred pounds were condemned by the inspectors and seized as unfit for human consumption.

SCHICK TOXIN ANTI-TOXIN ACTIVITIES, BOSTON HEALTH DEPARTMENT, MAY 6, 1922 TO DATE.

	Number. Schick Tested.	Read- ings.	Posi- tive.	Posi- tive. Com- bined.	Pseudo.	Nega- tive.	INJECTIONS.		
							First.	Second.	Third.
Summary of completed cases.....	20,713	19,148	8,826	1,157	2,417	6,751	8,859	7,916	7,013
Summary of incompleated cases.....	5,491	5,310	2,654	274	982	1,385	2,895	2,476	.....
Grand total.....	26,204	24,458	11,480	1,431	3,399	8,146	11,754	10,392	7,013

RE-SCHICKS AND IMMUNITY PRODUCED.

Grand total Re-Schicks.....	271	261	9	5	46	201			
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Grand total of immunity produced, 94.64 per cent.

THE BOSTON PARK SHOWS.

During the past month the Boston Health Department has contributed its part in the development of the program of education which these park shows endeavor to promote. One of the Health Department features was a special moving picture demonstration of the administration of the Schick test at the Carney Hospital. Four hundred and eighty-five feet of film depicting the manner in which the Schick test is administered and the subsequent interpretation of the test were shown.

It might incidentally be remarked that the money expended on this moving picture and for other health educational matters in connection with the programs of the Boston Park shows is an expenditure that might well be duplicated by the other city departments in that it affords the general public an opportunity to see the actual performance of work done by the municipality. Especially is the need for public education in this respect necessary in matters of health, and though the Boston Health Department cannot continually spend large sums in health education, the program of gradual dissemination of health information will be carried on from time to time to the extent of available appropriations.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING NOVEMBER, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	9	20.0
Seven days or less.....	1	2.2
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	2	4.4
Twenty-two to thirty-one days, inclusive.....	2	4.4
WITHIN FIRST MONTH.....	14	31.0
Within second month.....	1	2.2
Within third month.....	2	4.4
Within fourth month.....	1	2.2
Within fifth month.....	1	2.2
Within sixth month.....	2	4.4
Within seventh month.....	2	4.4
Within eighth month.....	1	2.2
Within ninth month.....	2	4.4
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelfth month.....	1	2.2
WITHIN FIRST YEAR PRECEDING DEATH.....	27	59.6
Within second year.....	5	11.1
Within third year.....	4	8.9
More than three years.....	9	20.0
Totals.....	45	99.6

DISTRIBUTION OF MEDICINE SAMPLES.

An unusual item of interest in the month's activities of the Department was the discovery and eradication of an objectionable practice of house to house distribution of medicinal samples. General Laws, chapter 270, section 3, prohibits the distribution from house to house of any package, etc., containing any medicine, etc., which may be in any way harmful to any person who may taste the same; and in this case the distributing concern defended its practice because of the fact that no samples were left at the doors, but were put directly in the hands of an adult at each home. They at once ceased their distribution, however, when after a conference at this office, the question was referred to the Law Department; and the Law Department refused to sustain their contention, but declared the practice a distinct violation of law.

SUMMARY OF THE WORK, NOVEMBER, 1922.

BUREAU OF ADMINISTRATION.

	Nov.	Oct.		Nov.	Oct.
Conferences	3	0	Personnel:		
Hearings	2	0	Resignation	1	0
Prosecutions ordered	19	18	Appointments	0	6
Orders	4	0	Appointments made permanent	0	1
Dump application:			Promotions	1	1
Approved	12	3	Offensive trades licensed, ...	1	0
Lying-in hospitals ap- proved	4	1	Foreible removals	1	0
Special drafts	2	1	Orders from City Coun- cil	1	0

LICENSES, PERMITS, ETC., ISSUED.

	Nov.	Oct.		Nov.	Oct.
Burial permits	1,084	1,027	Denatured alcohol li- censes	11	5
Disinterment permits	28	39	Manicure-massage:		
Milk licenses	156	194	Granted	22	22
Peddler's licenses, general	23	38	Beverage establishments licensed	2	2
Hen licenses granted	69	81	Grease	0	0
Stable permit granted	1	1	Dumps	4	3
Stable permit granted conditionally	1	0	Sundry	0	4
Stable application re- jected	1	0	Day nurseries	0	1
			Undertakers	1	0

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Nov.	Oct.		Nov.	Oct.
Visits by medical inspec- tors	1,267	908	Vaccination certificates	0	13
Deaths investigated	4	8	Cases brought to Boston for treatment	80	101
Vaccination	12	32	Antitoxin administered	19	5

NURSING SERVICE.

	Nov.	Oct.
Communicable disease visits	2,844	2,071
Babies visited, first visit	1,147	1,022
Revisits	1,693	1,541

HEALTH UNIT (Blossom Street).

	Nov.	Oct.
Health Department proper:		
Vaccinations	10	44
Vaccination certificates issued	5	42
Cases visited by nurses:		
Communicable diseases	203	141
Complaints made of unsanitary conditions	15	28

	Nov.	Oct.		Nov.	Oct.
Baby Hygiene Association:			Conferences:		
Babies cared for	340	347	Number	7	8
Babies newly admitted	18	21	Total attendance	261	417
			Home visits by nurses, ...	561	485
Boston Dispensary:				Nov.	Oct.
Calls by district physician from Boston Dispensary				62	47
Consumptives' Hospital Department:					
Calls by nurses in districts				822	758
Instructive District Nursing Association:					
Visits by nurses				2,040	1,897
Pre-natal classes				4	4
Jewish Welfare Center:					
Conferences held				3	5
Number of children attending conferences				115	86
Visitors:					
City				3	18
Out of city				1	0
General:					
Number of persons applying for information				262	210

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Nov.	Oct.
New reports	2,608	2,475
Stores inspected	3,780	3,883
Sanitary defects remedied	338	411
Complaints at office	37	40
Referred to Sanitary Division	36	55
Milk applications approved	156	148
Street stands inspected	11	12
Peddlers:		
Applications for licenses approved	21	40
Vehicles inspected and approved	667	597
Court cases	12	5
Fines	\$110	\$60

CONDEMNATIONS.

WITHOUT REQUEST.

Beans	15 pounds	Grapes	1,427 lugs
Beef	116 pounds	Grapes	21,065 pounds
Boneless herring	27 jars	Ketchup	59 bottles
Cheese, Kraft's	35 pounds	Liver	50 pounds
Chicken	23 pounds	Marmalade	38 jars
Chili salad	7 bottles	Mayonaisse dressing	4 bottles
Chili sauce	6 bottles	Meat paste	3 jars
Cocoa	2 cans	Miscellaneous canned goods	254 cans
Corned tongue	12 pounds	Molasses	1½ gallons
Dates	18 pounds	Mustard	7 bottles
Dates	18 packages	Oat food	15 packages
Coons (5)	1 box	Olives	26 jars
Ducks	48 pounds	Oysters	20 cans
Eggs	5 dozen	Orange syrup	1 bottle
Evaporated apples	21 pounds		

Pickles	40 bottles	Salad dressing	38 bottles
Pickles	212	Saukeraut	3 cans
Pears	1 can	Spaghetti	46 cans
Poultry	10 pounds	Spices	8 packages
Puffed rice	20 packages	Strawberry jam	2 jars
Relish	11 bottles	Tea	18 packages
Raspberry	5 bottles	Tomatoes of (number 3),	32 cases
Raspberry jam	1 jar		

REQUESTED.

Turkey	106 pounds	Vinegar	1 bottle
Veal	35 pounds	Kraft's cheese	18 (7-lb cans)

LIVE STOCK INSPECTION (Brighton Abattoir).

	Nov.	Oct.		Nov.	Oct.
Cattle inspected	470	204	Parts condemned	428	411
Calves inspected	989	241	Animals condemned	8	10
Swine inspected	7,128	6,228			

DAIRY DIVISION.

	Nov.	Oct.		Nov.	Oct.
Total inspections	929	988	With milk rooms	299	339
Dairies inspected	465	532	Without milk rooms	166	193
Scoring above 50*	320	407	Inactive	43	156
Scoring below 50	145	125	Total cattle inspected	6,121	6,961

* Passable mark.

BUREAU OF MILK INSPECTION.

	Nov.	Oct.		Nov.	Oct.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,506	1,267	Milk	702	720
Ice cream	3	0	Ice cream	0	41
Vinegar	118	198	Court cases	15	23
Miscellaneous	6	5	Fines	\$365	\$320

SANITARY INSPECTION.

	Nov.	Oct.		Nov.	Oct.
Original inspections	2,251	1,865	Car reports	96	28
New report	2,627	2,636	Complaints	841	797
Reinspections	7,818	6,829	Court cases	15	7
Legal notices served	267	323	Fines	0	0

BACTERIOLOGICAL LABORATORY.

Examinations for diagnosis and release:	Nov.	Oct.
Diphtheria	1,707	1,466
Tuberculosis	266	232
Typhoid	55	68
Gonorrhea	660	681
Gonorrheal ophthalmia	52	41
Syphilis	1,150	990
Other examinations	* 27	28
Bacteriological examinations of milk	729	727
Bacteriological examinations of ice cream	0	43
Examination of rats	142	0
Special K. L. examinations	202	72

* Malaria, 6; water for sewage, 1; cultures for virulence, 2; urine for typhoid, 1; feces for typhoid, 1; spinal fluid for meningococci, 1; fluid from eye for pneumococci, 1; paratyphoids, 12; genito-urinary tuberculosis, 2.

VITAL STATISTICS, NOVEMBER, 1922.

BIRTHS, REPORTABLE ILLNESS AND DEATHS IN BOSTON DURING NOVEMBER,
1922, WITH COMPARATIVE FIGURES FOR NOVEMBER, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	952	829	+123	14.95	13.13	+2.82
Nonresidents deducted.....	802	697	+105	12.59	11.04	+1.55
BY AGE:						
Under one year.....	130	97	+33	2.04	1.54	+.50
One year to four years, inclusive.....	51	29	+22	.80	.46	+.34
Sixty years and over.....	361	329	+32	5.67	5.21	+.46
BY SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	67	61	+6	1.05	.97	+.08
Arterio-sclerosis.....	38	38	.....	.60	.60	.....
Heart disease.....	155	153	+2	2.43	2.42	+.01
Nephritis, chronic.....	64	41	+23	1.00	.65	+.35
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,407	1,566	-159	22.10	24.80	+2.70
b. Registered stillbirths.....	49	52	-3	.77	.82	-.05
Stillbirths per 1,000 births and stillbirths.....				33.65	32.14	+1.51
c. Deaths of mothers from causes incident to childbirth.....	9	9	.....	.14	.14	.....
Deaths of mothers per 1,000 births and stillbirths.....				6.18	5.56	+.62
d. Deaths of children in first year of life... ..	130	97	-33	2.04	1.54	+.50
Deaths in first year per 1,000 live births.....				92.39	61.94	+30.45
VIOLENCE:						
Accidents.....	42	40	+2	.66	.63	+.03
Homicides.....	1	.....	+1	.016	.....	+.016
Suicides.....	5	9	-4	.08	.14	-.06
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	7	13	-6	.11	.21	-.10
Broncho-pneumonia.....	55	30	+25	.86	.47	+.39
Cancer.....	8	83	+15	1.54	1.31	+.23
Cirrhosis of the liver.....	1	3	-2	.016	.05	-.03
Diabetes mellitus.....	22	6	+16	.34	.10	+.24
Diarrhoeal diseases, children under two years of age.....	17	11	+6	.27	.17	+.10

REPORTABLE ILLNESS AND DEATHS IN BOSTON, NOVEMBER, 1922.—Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis.....Cases...	13	2	+11	.20	.03	+.07
Deaths.....	1	1	—1	.016	.016	—
Cerebro-spinal meningitis.....Cases...	8	10	—2	.12	.16	— .04
Deaths..	2	5	—3	.03	.08	— .05
Diphtheria.....Cases...	290	322	—32	4.55	5.10	— .55
Deaths..	17	9	+8	.27	.14	+ .13
Influenza.....Cases...	12	7	+5	.19	.11	+ .08
Deaths..	1	2	—1	.016	.03	— .01
Measles.....Cases...	240	202	+38	3.76	3.20	+ .56
Deaths..	4	1	+3	.06	.016	— .04
Pneumonia (lobar).....Cases...	116	108	+8	1.82	1.71	+ .11
Deaths..	65	24	+41	1.02	.38	+ .64
Scarlet fever.....Cases...	165	134	+31	2.59	2.12	+ .47
Deaths..	2	2	.....	.03	.03	.....
Tuberculosis (pulmonary).....Cases...	174	175	—1	2.73	2.77	— .04
Deaths..	51	67	—16	.80	1.06	— .26
Tuberculosis (other forms).....Cases...	21	14	+7	.33	.22	+ .11
Deaths..	9	9	.....	.14	.14	.....
Typhoid fever.....Cases...	10	12	—2	.15	.19	— .04
Deaths..	1	1	.....	.016	.016	.....
Whooping cough.....Cases...	178	19	+159	2.80	.31	+2.49
Deaths..	8	1	+7	.12	.016	+ .10

This table includes all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated populations for July, 1921, and 1920, based upon the federal census of 1920 have been used.

"Infant mortality is the most sensitive index we possess of social welfare. If babies were well born and well cared for their mortality would be negligible. The infant death rate measures the intelligence, health and right living of fathers and mothers, the standards of morals and sanitation of communities and governments, the efficiency of physicians, nurses, health officers and educators."

—Sir Arthur Newsholme.

1559

MONTHLY BULLETIN

HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

All communications relating to this publication should be addressed to the
HEALTH COMMISSIONER, BOSTON, MASS.

VOL. 11.

BOSTON, DECEMBER, 1922.

No. 12

PNEUMONIA.

We are now in what might be called the open season for pneumonia. Pneumonia ranks with cardiovascular diseases and tuberculosis as one of the chief causes of death in this part of the country. Moreover, deaths from pneumonia are probably tending to increase. Pneumonia is a disease not only of human beings but of animals. It is comparatively common in domestic animals and is very frequently found in the rats collected by the Boston Health Department trappers in connection with the antiplague work of the department.

The changes in the lungs to which we are accustomed to refer under the general term "pneumonia" may be brought about by a number of different organisms. Of these, the pneumococcus has probably been given the greatest amount of study. Four different so-called types of pneumococcus have been classified, each type apparently different in some essential respect from the other types and being capable of producing a pneumonia with more or less distinctive characteristics. More recently, particularly during the war, attention was especially directed to streptococci as a cause of pneumonia, particularly the hemolytic streptococcus. This organism seemed to be especially associated with the pneumonias causing the fatal termination in cases of influenza.

One important fact that we have learned in connection with our study of pneumonia is that all the common organisms which have been found capable of producing pneumonia, the four types of pneumococcus and the streptococci, including the hemolytic streptococcus, may be found in a virulent form in the mouths and throats of many people without apparently doing them any harm. It has

also been found that if people whose mouths and throats are free from the organisms which may produce pneumonia are brought into more or less intimate association with people who are carrying such organisms in their mouths and throats, the newcomers tend very rapidly to acquire these organisms also.

Whether or not a person who carries the Type III. pneumococcus or the hemolytic streptococcus, apparently the most dangerous form of streptococcus, indefinitely in his throat without apparent harm, is absolutely immune to any ill effects from these organisms, as a person may be immune to the infective agent of smallpox, or whether such a person simply possesses a very high degree of resistance to the dangerous possibilities of such organisms, is open to question. Practically, however, in considering measures for the protection of the health of human beings, it is unsafe to assume such absolute immunity on the part of anyone. Time after time, practical experience on shipboard and in barracks and elsewhere where human beings are being handled in considerable numbers, it has been demonstrated that whenever persons who are free from pneumonia producing organisms are brought in close association with persons carrying such organisms actual cases of pneumonia tend to become frequent. Under such circumstances an epidemic may even develop, comparable in its fatality, to an epidemic of pneumonic plague. About fifteen years ago, a new ship supposed to represent in steerage accommodations the latest features in naval architecture left Antwerp for New York. One steerage compartment of this ship was occupied by about 150 strong, healthy, young Slavs, mostly Slovaks and Poles. The ship arrived in New York with over fifty cases of pneumonia from this compartment, with a mortality of over 50 per cent. Similar experiences have not been uncommon. Practical experience would, therefore, seem to teach us that persons even in good health cannot without danger of serious consequences be brought in close association with carriers of organisms capable of producing pneumonia.

Long before bacteria were ever thought of in connection with pneumonia, it was well recognized that pneumonia was usually associated with physical exhaustion, that it was likely to occur in persons who had been subjected to unusual physical strain, perhaps coupled with exposure to cold and wet, or who were weakened by some acute or chronic disease or who had been deprived of customary sleep, or worn down by worry and other depressing mental influences. Nothing which has been discovered in more recent years regarding pneumonia has tended to lessen the practical value of this old belief that pneumonia is essentially a disease of physical exhaustion.

It would seem that mixed vaccines made from various bacteria including pneumococci and streptococci have proved successful in

lessening pneumonia in mortality in military life. It is to be presumed that such vaccines are capable of lessening the prevalence of pneumonia also in civil life. Whether they may do this by reason of some specific immunity which they confer upon individuals or whether they operate as a foreign protein in stimulating bodily resistance generally is a matter of discussion among bacteriologists, but however they may act there are many practical difficulties in the way of the widespread use of such vaccines as a means of protecting people generally against pneumonia. For the time being at least, we will have to rely chiefly on other measures for prevention. Such measures are the avoidance of everything which tends to physical exhaustion during the pneumonia season, for as far as we know, physical exhaustion alone may be sufficient to make the carrier of the virulent pneumococcus vulnerable to active infection by this organism. Likewise, it is to be inferred that any acute illness, even a cold, may be sufficient to so lower the resistance of the individual to a pneumonia producing organism that an acute fatal case of pneumonia may result. To this extent at least colds or any acute respiratory infections may be regarded as factors in predisposing to pneumonia. And they in turn may be regarded as the consequence of a respiratory mucous membrane superheated, dried out and devitalized and irritated by the dust and gaseous mixtures to be found in human habitations in the colder months of the year. Especially to be avoided is the bringing of persons who are not carriers of pneumonia producing organisms and who may be suffering from some acute illness into a hospital ward or elsewhere where they may come in close association with persons carrying pneumonia producing organisms. Danger from pneumonia is lessened by leaving a sick person by himself in his own home if possible rather than putting him with other people in a hospital ward. The physical effort and possible exposure always involved in the transportation of a person seriously ill from his home to a hospital are in themselves also something to be avoided if practicable.

There would appear to be no specific treatment as yet discovered for pneumonia. Some years ago a serum was devised which was believed to be very efficacious in the treatment of pneumonia from the Type I. pneumococcus. While experience has apparently shown that this serum may prove valuable in some instances, the present opinion appears to be that it cannot be relied upon as a specific even in Type I. pneumonia. Other nonspecific sera have been used in pneumonia and it may be that the administration of such foreign proteins may tend to provoke bodily reactions which increase resistance to the disease.

In many cases of pneumonia the patient is practically doomed

from the start. This is especially so in the aged and weak and persons already suffering from some other disease and may be so in the strong and vigorous. But in cases of pneumonia where the patient has a fighting chance, rest, physical and mental, is to be regarded as of vital importance. Here again practical experience seems to teach us that it may be less dangerous to leave a person with pneumonia neglected with respect to food or physical attention than to bundle him into a cold ambulance, jounce him around through the city on a winter day and finally land him in a stuffy over-heated hospital ward crowded with other patients.

PROTECTION AGAINST COMMUNICABLE DISEASES.

Treat Your Neighbors As You Want Them to Treat You.

If your neighbors' children have a contagious disease you do not want them to give it to your children.

In order to prevent the spread of contagious diseases and to help you provide proper care for members of your family sick with contagious diseases, the laws of this state * require you as a householder, if you know that a person in your family or house has a contagious disease, to notify the City Health Department. If the sick person has a physician, the physician also is required to report the case. If you, as a householder, know you have a person in your house or family ill with diphtheria, scarlet fever, measles, chicken-pox or whooping cough, or any of several other contagious diseases, you are liable to a fine of \$100 if you do not notify the Health Department, even though the person may not seem sick enough to need a physician.

But you are not doing all that is required in order to protect your neighbors or your own family by merely notifying the Health Department or calling a physician when you have a case of contagious disease in your family.

A person who is beginning to be sick with smallpox, diphtheria, scarlet fever, measles, whooping cough and certain other contagious diseases already is in the contagious stage of the disease and may be dangerous to other persons before anyone, even a physician, can tell with certainty what is the matter, and a person thus coming down sick is perhaps more dangerous to others than he will be later when the exact nature of the sickness can be recognized.

Therefore, if you want to be sure to protect your neighbors and your own family, you should keep by himself any member of your family who seems to be getting sick, and keep away from others

* Chapter 111, section 109, General Laws.

everything that he uses, such as drinking glasses, cups, spoons, forks, knives, dishes, handkerchiefs, wash cloths, towels, etc., until after they have been sterilized as in boiling water.

It is because this is not done that we have year after year just about the same number of deaths from the common contagious diseases. It often happens that by the time you or a physician or the Health Department finds out that a child has a contagious disease and precautions are taken for the protection of others, the child has probably already given the disease to as many other children as he would be likely to infect anyway.

In many families it may not be easy or even possible to keep a child and his eating and drinking utensils away from others every time he appears to have a stomach upset or be getting a cold, but remember that every time you do this you may be saving the life of some neighbor's child or your own baby; and that even if the sickness proves not to be serious, no harm is done.

You may not think it necessary to call in a physician when a person in your family has measles, chicken-pox, whooping cough or some peculiar rash if the person does not appear to be very sick. While the law above referred to requires you to notify the Health Department in such cases, it does not compel you to call a physician. However, here are some of the consequences of not calling a physician which the Health Department is constantly discovering:

A child has a sore, scabby nose, but the child's mother thinks that it is nothing serious. There is an outbreak of diphtheria among the children in the neighborhood and the Health Department finds that it is due to this scabby nose of the child who really has diphtheria in his nose but which does not make him sick enough to prevent him from playing with other children, because he is what is called an "immune" to diphtheria.

Time after time when the Health Department is tracing an outbreak of scarlet fever, it finds that it is due to a child who had such a mild attack of scarlet fever that the mother never suspected that the child had scarlet fever at all, but thought it merely had an attack of indigestion and that the rash was due to this cause.

Practically every epidemic of smallpox which occurs in this country gets its start because people are so likely to mistake a mild case of smallpox for chicken-pox or "just pimples" from a digestive disturbance.

If you suspect that anyone in your house or family may have a contagious disease, the Boston Health Department stands always ready, when notified, to help you or your physician to discover exactly what the disease is just as soon as it is possible to tell.

If it be a contagious disease, the Health Department doctors

and nurses will show you how best to take care of the case so as to prevent danger to others, and will watch it and have examinations made in order that it may not be kept quarantined any longer than necessary for the protection of your neighbors and your own family.

FRESH AIR IN THE WINTER TIME.

Plenty of fresh air and outdoor exercise is the best armor to wear against sickness during the winter months. The winter sun is as delightfully perfect and almost as curative as is the summer sun. Do not let its real benefit be lost to you by admiring it from within doors. Enjoy the benefits of it directly.

During our childhood school days we remember what a treat and delightful departure from the monotony of the three R's to be told of the propensity of the bear to hibernate during the winter months. The grown up children of today, and other days, too, play a game of watchful waiting in early February on the approach of ground-hog day, when the traditional harbinger of early or late spring blinks its way out of its burrow of hibernation in quest of its shadow. If he discovers his shadow he retreats to his burrow to continue his hibernation for a period of six weeks longer, and according to tradition, spring is projected just that much further into the year. What causes the ground-hog to see his shadow? The sun of course; and he does not like it.

This lapse into natural history is intended only to bring to mind the decidedly wrong impression that some people have that one should keep indoors during cold weather during winter months. They do not stop to think that, as in the summer time because of the earth's revolutions around the sun and the consequent rise in atmospherical temperature, the kind of clothing worn conforms to the seasonal change in temperature, the same adjustment of clothing worn to conform to the winter seasonal change in temperature may be had so that outdoor activities may be enjoyed. In the summer time young and old enjoy bathing, swimming, boating, canoeing, tennis, baseball, golf, automobiling, horseback riding and the like. In the winter time, skating, skiing (for those who like and understand how to enjoy these thrills safely), snowshoeing, ice boating, tobogganning, hockey and other outdoor games provide enjoyment temperamentally, and a means also for the individual to reap the benefits of cold, invigorating fresh air, and to enjoy the healthful rays of the winter sun.

In the country one has much more opportunity for the enjoyment of winter sports and outdoor activities than in the city districts. But with the advance in municipal conception of the best

means of providing adequate opportunity for community citizens, city dwellers, has come an increase in the number of playgrounds for ice sports and the utilization of naturally hilly parks for tobogganning thrills. Unlike the country, as one usually thinks of it, the business-like congestion of cities makes it extremely difficult for the city dweller to get the pure, unrestrained fresh air during his moments of freedom from daily pursuits that is possible to the country resident to obtain in the free open spaces. Yet, in every section of Boston there is provided by the city playgrounds for the use of the inhabitants, and which during winter months are made available for ice sports. So far as possible young and old should endeavor to take advantage of the opportunity presented for indulging in ice sports, so as to be as much as possible in the open air and furnish the body with a disease-resisting tendency by helping to keep the system toned up by regular outdoor exercise. If you do not like winter sports, you should dress warmly, wear good weather-resisting footwear and take long walks in the open. A mile or two each day of such walking, even in very cold weather, if you are adequately protected, will be a good insurance against sickness. Every one should endeavor to provide himself with as much of such insurance as possible. It is within the grasp of all, and costs nothing except a little effort, or perhaps a change in the daily routine so as to permit a little outdoor exercise as a relaxation.

Indoor workers especially should undertake to arrange their schedule of work and play so that they may have the maximum amount of fresh air to offset the decreased bodily resistance caused by the confinement of office, shop or factory. When so many opportunities are offered in these days of industrial activity through public and private institutions of learning for men and women to better equip them for the battles of life by evening study, particular attention should be paid by such students, especially if they are indoor workers during the day, to the amount of outdoor exercise taken. With due regard to the physical hardihood of individuals, it cannot be refuted that the better the physical condition the better will be the mental condition. The jog given by regular exercise, indoor or outdoor, but preferably in the open air, to sluggish flow of blood caused by too little indulgence in exercise, indoor or outdoor, will react to the benefit of the individual concerned. He will be better physically and mentally, and temperamentally, too. The saying that "All work and no play makes Jack a dull boy" is equally applicable to the grown-up boy or girl who overlooks the advantages to be gained by getting a full measure of fresh air, regularly, in the form of healthful exercise, because of a commendable ambition to better the educational standing in which they find themselves. If

you work indoors, get outside as much as possible after working hours. If you study indoors, after working hours, perhaps a little rearrangement of the sleeping hours may result in an opportunity for you to get some early morning fresh air. If you are so located with reference to your place of employment that you can walk to work, walk to work. Get plenty of fresh air.

Fresh air in the winter time is healthful. Cold, exhilarating fresh air in the winter time is beneficial. Take adequate precautions to protect the body with warm, not uncomfortable clothing; wear good footwear. Spend a part of each day, if possible, in the open air, exercising sanely. If you cannot or do not like skating, tobogganning, snowshoeing and such sports, you can get just as much fresh air and just as much physical benefit by walking. Bear in mind that the best kind of air is fresh air, and that no matter how scientifically perfect artificial means of ventilation are within doors, the perfection of natural, fresh air cannot be excelled. When you are out doors practice deep, regular breathing. Sleep regularly; do not overeat. Do not hibernate, because the weather is cold, or because snow is on the ground. Snow purifies the air surrounding it.

DETENTION HOSPITAL REPAIRED.

The Detention Hospital, or as it was originally called, the Smallpox Hospital, was originally located on Canterbury street, near the present Austin Farm. This hospital was built in 1878, was two stories high, and had two wings finished and used as hospital wards, one for men and the other for women. The main building was occupied on the first floor by an office, a nurses' room, kitchen and dining room for the family in attendance, and a larger dining room for the patients in the hospital. The second floor contained six private chambers for patients seeking more seclusion and privacy than was possible in the public wards, and also contained a bathroom. The attic was unfinished and was used as a storage room for bedding and linen for hospital use. Situated about one hundred feet away from the ward wings was built a stable. This hospital at that time was accessibly situated and at the same time was sufficiently removed from dwellings so as not to cause danger or alarm to residents and filled a long needed want of a hospital to which patients could be removed without injury or serious discomfort, and in which they could receive the best of care and treatment.

The present site of the Detention Hospital, as it is now called, is on Southampton street. The hospital building was originally

built about thirty years ago, and under the direction of the Health Department has been used for the care and treatment of persons held under observation on account of exposure to or infection with dangerous contagious diseases. The facilities available at the hospital have for the past few years been more apparently inadequate for the use to which it should be put when occasion demands. The building itself has been badly in need of repair; additional isolating rooms were necessary, separate quarters for nurses and attendants were not available, and the need of up-to-date sterilizing equipment and laundry service manifested itself more insistently each year of late, when it was found necessary to use the hospital for the isolating of persons having or exposed to the more dangerous contagious diseases, such as smallpox or leprosy. It has been found in the past necessary to use the hospital also for the care and treatment of cases of the ordinary communicable diseases that could not be accommodated, because of congested conditions at the South Department of the Boston City Hospital. Its use for this purpose indicated that if the Health Department was to be ready at any time to provide hospital accommodations under similar circumstances to any unexpected extent, plans would have to be perfected and carried out whereby the hospital premises might be put into the condition that is essential to the carrying out of the duty imposed upon the department by law relative to supervision to be exercised over the manner of isolation of persons infected with communicable diseases with a view to the prevention of the further spread of such diseases.

With these various phases of the situation in mind, and urging its necessity upon the municipality, funds were made available in 1922 sufficient to make extensive alterations in and additions to the buildings in the hospital inclosure. In August, 1922, plans were completed, bids advertised and a contract awarded for the carrying out of the plans for the improvement of the Detention Hospital. The work done, which is practically completed now, consisted of remodeling one of the buildings in the hospital inclosure which building had been used chiefly for storage purposes and housing an obsolete sterilizer. The building was badly out of plumb by reason of the settling of the land on which it was built some thirty or more years ago. The building was straightened out and space in it provided for isolation rooms for the accommodation of patients under observation for contagious diseases. Room was made for the installation of a modern sterilizer and up-to-date laundry equipment, and additional quarters for nurses were also provided. The completion of this work will fill a long-felt want of practical hospital facilities on the premises, and serve to eliminate, except upon extraordinary

occasions, the necessity of utilizing again, as has been done in the past, portable booths for the isolation of persons held under observation at the hospital.

Some time in the future it is hoped that the finances of the city will permit the erection of a new modern hospital with all conveniences necessary for the carrying out of proper isolating supervision in connection with communicable diseases found in the city, and make it possible for the Health Department to be at all times ready to protect the health of the citizens of Boston, even in the case of an epidemic of diseases requiring extraordinary hospital facilities. The completion of the alterations outlined will, however, give the Health Department a feeling of greater security in its ability to meet situations with respect to the more dangerous contagious diseases than it has recently had.

FIFTEEN YEARS ADDED TO LIFE.

Many people must have been astonished to hear or to read Dr. Livingston Farrand's statement, made the other day in Boston, that the average length of human life in this country has been increased by fifteen years since 1870. Think of it — people all around us have been given an extra fifteen-year lease on life, beyond what they would have had if they had lived sixty to a hundred years ago!

Another fact which the Cornell president pointed out was that the 1920 census figures indicate an increase of three and one fourth years in expectancy of life since 1910. The average length of life in the United States is now fifty-six years. A decade ago it was fifty-three. A half century ago, forty-one.

What has accomplished this truly wonderful result? Fundamentally it is the painstaking research which medical scientists have been making into the causes and cure of disease. Other factors have, of course, been contributory. Many people have been trained to a different mental attitude toward disease. But the men of science and the physicians and educators who have applied and disseminated the knowledge of the newly discovered laws of health deserve chief credit for one of the greatest achievements in the history of mankind.

Millions of children under five years of age have been permitted to live because parents and doctors and nurses had been instructed how to care for them through this tender period. All of us know something about the fight against tuberculosis, and how the number of deaths from that cause has been cut in half. The devastation once wrought by typhoid fever has been decreased to one fifth of what it formerly was — largely by the purification of water and

milk supplies. Diphtheria has passed into the list of preventable and, in its early stages, curable diseases. And so the crusade against death has gone on and still goes on.

We are living at a rapid pace. We are crowded into cities. Life and limb are daily endangered by machinery. Realization of these handicaps makes the progress that has been thus far recorded seem all the more remarkable.

If science, still in its infancy, has been able to achieve all this, one is bewildered with the effort to picture what it will do for the human race in the coming years.

Universal gratitude should go out to the men of science, who labor at the most difficult and intricate tasks, often poorly rewarded, but always inspired by the thought of service.—*Boston Traveler*.

HEATING OF RENTED PROPERTY.

The winter months bring regularly to the Health Department, either by telephone or letter, complaints from tenants of rented property relative to the lack of sufficient heat to make the premises habitable in cold weather. The publicity given the emergency housing measures passed by the Massachusetts General Court during the past two years is the cause, it seems, for the reference to the Health Department of such complaints as referred to above. But the law in question does not give the Health Department any power in the matter. The only way in which the Health Department may be of service in enabling tenants to obtain heat in their places of residence is in cases where there is sickness in the family of the complainant. In such cases, however, the only thing the Health Department may do is to persuade the landlord that it is a humanitarian service for him to provide heat so that the illness of the person in question may not be aggravated.

The real remedy of the tenant is set forth very clearly in the circular letter issued by the Health Department when this law originally went into effect, and this remedy, apparently, is available only as the result of express or implied agreement relative to heat between the landlord and the tenant.

While the Health Department has done and will still continue to do all in its power to assist tenants in these matters, especially where there is sickness in the family, it seems advisable that the position of the Health Department with respect to any measures it may take to aid tenants in securing adequate heat for rented property during cold weather be again emphasized as one of persuasion upon the delinquent landlord, rather than any mandatory power it possesses with respect to compelling the landlord to furnish such heat.

A SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of the latest survey made of market milk sold in Boston by dealers and chain stores. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent of butter fat.

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Alden Brothers Company.....	12.56	3.63	35
Anderson, Oscar A.....	12.54	3.80	171
Antetomosso, Peter.....	12.48	3.60	21
R. Barden Creamery Company.....	13.24	4.30	233
Barron, Clarence W.....	14.50	5.06	13
Barrow, Fred G.....	12.25	3.65	127
Barry, Michael F.....	12.63	3.70	29
Bemis, Henry G.....	12.36	3.63	37
Bergmann, John H.....	13.19	4.13	17
Bowditch, E. F., Estate.....	11.96	3.50	14
Brandley, T. J. & P. J.....	12.56	3.86	10
Brandon Farms Milk Company.....	12.43	3.73	136
Brookdale Creamery.....	12.77	3.90	24
Burns, James.....	12.56	3.83	60
Casey, James D.....	12.58	3.80	75
Cashin, James F.....	12.32	3.68	24
Chapin, George L.....	12.62	3.85	99
Childs Brothers.....	12.24	3.51	95
Clark, Levi.....	12.53	3.73	29
Cohen, Benjamin.....	12.86	4.05	14
Corkery, John H.....	12.40	3.63	151
Creedon & Crowell.....	12.47	3.56	41
Cummings, F. S., Company.....	12.24	3.60	17
Cunningham, Paul.....	12.21	3.52	20
Cusick, William H.....	12.55	3.90	56
Deerfoot Farms Milk Company.....	12.59	3.90	20
Denehy, Timothy.....	13.22	4.20	8
DiMaura, Gaetano.....	12.59	3.70	11
Driscoll, William B., Company.....	12.42	3.78	8
Duggan Brothers.....	12.54	3.80	14
Edgerly, Frank S.....	12.43	3.66	190
Elm Spring Farm Milk Company.....	12.22	3.65	292

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
English, John.....	13.11	4.03	41
Ferguson, Malcolm D.....	12.22	3.70	118
Garvin, Charles E.....	13.25	4.50	116
Giroux, J. E., & Co.....	12.27	3.61	26
Griffin, Joseph L.....	12.60	3.68	17
Griffin, Thomas J.....	12.44	3.68	334
Gushee, W. S. & C. W.....	12.26	3.50	21
Hagar, J. M., & Sons.....	12.59	3.70	47
Hampden Creamery Company.....	13.03	3.92	800
Hancock, T. G., Company.....	12.75	4.05	35
Herlihy Brothers.....	12.68	3.90	54
Hickey, Martin J.....	13.24	4.38	45
Holden, John E.....	12.86	3.83	35
Hood, H. P., & Sons, Inc.....	12.27	3.66	43
Jones, W. T., & Co., Inc.....	12.79	4.00	20
Kendall Brothers.....	12.34	3.73	68
Kennedy, Robert J., Jr.....	12.23	3.60	16
Kingston, Samuel.....	12.74	4.00	16
Klaw & Freeman.....	12.71	3.65	70
Knapp, George J.....	12.64	3.80	178
Lang, Michael.....	12.51	3.55	940
Larkin, Patrick.....	13.13	3.98	98
Larsson, Charles.....	12.25	3.50	24
Lesser, Joseph.....	12.76	3.75	160
Lincoln Farms, Inc.....	12.32	4.00	73
Lubin, Felix.....	12.63	4.13	398
Lydonville Creamery Association.....	12.62	3.61	34
Magee, Nellie A.....	12.82	3.70	11
Manning, Peter E.....	12.36	3.55	320
Maple Farm Milk Company.....	12.37	3.58	157
McAdams, John F.....	12.48	3.65	140
McKernan, John.....	13.20	4.07	45
Mekosky, Henry L.....	12.68	3.80	100
Moore, Peter.....	12.35	3.55	33
Morgan, George D., & Sons.....	13.50	5.23	15
Munchbach, George.....	12.47	3.81	82
Nelson & Bennison.....	12.28	3.67	204
Newton & Pope.....	13.04	4.08	30

NAME OF DEALER.	SOLIDS.	FAT.	Bacteria. Thousands in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Noble, W. F., & Sons.....	12.88	4.00	10
O'Shaughnessy, Patrick.....	12.47	3.52	142
Plymouth Creamery System.....	12.44	3.81	82
Pond, Harvey T.....	13.02	4.15	102
Raycraft, Benjamin F.....	12.95	4.30	12
Robbins, F. E.....	12.60	3.80	14
Robinson, Albert J.....	12.94	3.90	18
Robinson, James A.....	12.68	3.91	126
Runkle, J. C.....	13.84	4.85	7
Schuste, Adam.....	12.72	3.78	81
Seven Oaks Dairy Company.....	12.70	3.90	90
Shiek, Jacob.....	12.42	3.76	324
Smith & Lynch.....	12.50	3.56	64
Somerset Farms.....	13.66	4.56	38
Sterling Farm Milk Company.....	12.45	3.58	14
Stone, Harvey T.....	12.58	3.71	97
Stuart Wallace E.....	12.73	3.76	7
Sullivan, John D.....	12.10	3.51	150
Sullivan, John L.....	13.04	4.18	104
Toothaker Brothers.....	12.45	3.73	14
Turner Centre System.....	12.86	3.86	45
Upland Farms Milk Company.....	14.07	4.60	16
Vartarian, Setrag.....	13.31	3.46	320
Walker-Gordon Milk Company.....	12.65	3.81	7
Ware, George H.....	12.74	3.93	29
Warren, Cornelia.....	12.94	4.13	53
Weiler, E., & Sons.....	12.59	3.86	21
Werner, Ferdinand Company.....	12.20	3.40	21
Westwood Farm Milk Company.....	12.56	3.65	20
White Brothers.....	13.12	4.33	80
Whiting Milk Companies.....	12.44	3.78	102
Whittemore, Warner D.....	12.43	3.72	21
Winer, Morris.....	12.38	3.63	322
Wiswall, Granville A.....	12.35	3.60	28
Wittenberg & Co.....	12.61	3.86	339

CHAIN STORE MILKS.

NAME OF DEALER.	Supplied By.	SOLIDS.	FAT.	Bacteria. Thousands per Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	H. P. Hood & Son, Inc.....	12.40	3.76	84
John T. Connor Company.....	Bellows Falls Co-operative Creamery Association.	12.27	3.60	447
Co-operative Grocery Company	J. M. Hagar & Sons.....	12.27	3.61	59
Economy Grocery Stores.....	Plymouth Creamery Sys- tem, Inc.	12.50	3.83	68
Morgan Brothers Company....	Whiting Milk Companies...	12.64	3.80	374
M. O'Keeffe, Inc.....	J. M. Hagar & Sons... ..	12.31	3.66	40

ELIMINATION OF RATS.

The Women's Municipal League of Boston, 25 Huntington avenue, Boston, has issued the following circular letter generally inviting inquiries concerning rat elimination:

December 15, 1922.

Owing to the increased interest in rat elimination shown by the inquiries we are receiving on the subject, we announce that we shall be glad to give free advice on rat riddance to any who may request.

All communications must be plainly addressed to our ratalogist, Mrs. Albert T. Leatherbee, and a stamped return envelope inclosed."

THE WOMEN'S MUNICIPAL LEAGUE OF BOSTON.

The Health Department is glad to give the above statement publicity in its monthly publication on current health topics and public health conditions in Boston. The interest in the welfare of Boston which prompts the Women's Municipal League of Boston to send out such a circular to Boston's citizens is commendable and all persons who have rat problems that they would like to have solved for them by methods determined from experience to be efficacious should not hesitate to inquire at the office of the League as outlined in the above quoted circular.

The Boston Health Department can supplement the offer of assistance made by the Women's Municipal League of Boston by advising the citizens of Boston also at this time that it has available for free distribution a printed circular entitled "How to Get Rid of Rats," which any one may have upon request. The information contained in this latter circular should be valuable in connection with whatever advice is given by the League in the matter of elimination of the rat nuisance. It is hoped that advantage will be taken of the opportunity here offered.

ILLITERACY THE CAUSE OF MANY ACCIDENTS.

Not only is there loss in production because of the low wage earning power of the illiterate foreigner, but there is a tremendous loss in accidents and casualties among the foreigners engaged in dangerous occupations. Marian K. Clark, of the New York State Industrial Commission, estimates that one half of the accidents in factories, with a resultant loss of \$50,000 per day to industries, are due to ignorance of the language. There are 800,000 factory workers in New York State who cannot speak English. In 1916, \$11,500,000 was paid out in that state in accordance with the workingman's compensation law, an amount which would be increased to \$35,000,000 if to it were added loss of wages, labor turnover, doctors' bills and administration of the law. Statistics of the United States Bureau of Labor show that the rate of accidents in the iron and steel industry during a period of eight years was highest among the non-English speaking workers and showed little decrease from year to year. The Ford Motor Company officials state that accidents have fallen off 54 per cent since their school was started in 1914.

In mining, the most hazardous occupation in this country, lack of ability to read the English language is a tremendous handicap. In 1919 the director of the Bureau of Mines stated that 465,000 men in the mining industry came from non-English speaking races, and that many of them were illiterate. He states that if these men were taught to read and write English it would be a tremendous economic factor in the industry through a reduction in the casualty list. He says: "This is a plain business proposition to prevent the death of at least 1,000 miners each year and to prevent the injury of more than 150,000 miners each year. Thousands of illiterate foreigners, many of them unable even to read or write their native language are poured into the great American mining machine each year and with most disastrous results. The mines that employ numbers of foreigners generally have the precautionary rules printed in the different languages; but if the foreigner can not even read his own language, these safety guides are of no value to him. The best estimates from a number of the larger mining states are to the effect that the non-English speaking foreigners suffer twice the fatalities that the English speaking miners do. This means an excess of 930 non-English speaking foreigners killed each year, and I may say unnecessarily. If the average state compensation is \$3,000, which is a fair figure, the total economic loss each year to the country through the excess of deaths of non-English speaking miners alone amounts to \$2,790,000. On the same basis it is estimated that the excess of non-English speaking miners injured each year amounts to 69,750 men. This is a loss in

wages alone of \$1,743,750. Taking the excess of deaths and injuries together due to non-English speaking foreigners, the economic loss each year reaches \$4,533,750. This is entirely aside from the other costs to the industry in production lost."

— *United States Bureau of Education.*

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF TUBERCULOSIS AND DATE OF DEATH DURING DECEMBER, 1922.

CLASSIFICATION.	Number.	Percentage.
After death.....	10	22.22
Seven days or less.....	3	6.67
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	—	—
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH.....	13	28.89
Within second month.....	3	6.67
Within third month.....	2	4.44
Within fourth month.....	2	4.44
Within fifth month.....	2	4.44
Within sixth month.....	1	2.22
Within seventh month.....	2	4.44
Within eighth month.....	2	4.44
Within ninth month.....	2	4.44
Within tenth month.....	—	—
Within eleventh month.....	2	4.44
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH.....	31	68.86
Within second year.....	1	2.22
Within third year.....	2	4.44
More than three years.....	11	24.44
Totals.....	45	99.96

WORRY.

Dr. Edward L. Ash of the British Institute of Hygiene has the following to say with respect to worry:

"Worry is a disorganization of mind control, resulting in see-saw movements of thoughts backwards and forwards. It is based on fear that something may not go well, but not based on having to face some inevitable fact.

"Great troubles are not the things we usually worry about, but rather small things, for, while a great trouble makes a man put forth his greatest strength to overcome it, small troubles result in a round-and-round train of thought which leads nowhere.

"It is a remarkable fact that worry about diseases is liable to produce them by lowering the general vitality and diminishing resistance to germs.

"Thus is made a 'worry wheel,' for a sick man cannot help worrying about the small things of life, and we soon have an unfortunate sequence of events described as a vicious circle.

"When anyone is caught on a 'worry wheel,' the only thing to do is to make a complete break in the daily routine, and a complete change in life, such as the study of a new language or a healthy hobby.

"Conquest of worry for the ordinary healthy man or woman depends on the training of the conscious mind by education and mental exercise, and of the subconscious mind by self-suggestion.

"Prevention of worry depends on the maintenance of health and greater attention to mental hygiene, self-training and self-suggestion."

KEEP WELL.

1. Ventilate every room you occupy
2. Wear loose, porous clothing suited to season, weather and occupation.
3. If you are an indoor worker, be sure to get recreation outdoors.
4. Sleep in fresh air always; in the open if you can.
5. Hold a handkerchief before your mouth and nose when you cough or sneeze and insist that others do so, too.
6. Always wash your hands before eating.
7. Do not overeat. This applies especially to meats and eggs.
8. Eat some hard and some bulky foods; some fruits.
9. Eat slowly — chew thoroughly.
10. Drink sufficient water daily.
11. Evacuate thoroughly, regularly.
12. Stand, sit and walk erect.
13. Do not allow poisons and infections to enter the body.
14. Keep the teeth, gums and tongue clean.
15. Work, play, rest and sleep in moderation.
16. Keep serene. Worry is the foe of health. Cultivate the companionship of your fellow-men.
17. Avoid self-drugging. Beware the plausible humbug of the patent medicine faker.
18. Have your doctor examine you carefully once a year. Also consult your dentist at regular intervals.—(U. S. P. H. S.)

RESPECT THE FLAG.

When you see the Stars and Stripes displayed, son, stand up and take off your hat. Somebody may titter. It is in the blood of some to deride all expression of noble sentiment. You may blaspheme in the street and stagger drunken in public places, and the bystanders will not pay much attention to you, but if you should get down on your knees and pray to Almighty God, or if you should stand bareheaded while a company of old soldiers marches by with flags to the breeze, most people will think you are showing off.

But don't you mind! When Old Glory comes along, salute, and let them think what they please! When the band plays "The Star-Spangled Banner" in a restaurant or hotel dining room, get up, even if you rise alone; stand there, and don't be ashamed of it, either.

Don't be ashamed when your throat chokes and the tears come when you see the flag flying from the masts of our ships on the great seas or floating from every flagstaff of the republic. You will never have a worthier emotion. For of all the signs and symbols since the world began there is none so full of meaning as the flag of this country.

Other flags mean a glorious past; this flag means a glorious future. It is not so much the flag of our fathers as it is the flag of our children, and of countless children yet unborn. It is the flag of tomorrow, the signal of the "Good time coming." It is not the flag of your king; it is the flag of yourself and your neighbors.

Your flag stands for humanity, for an equal opportunity to all the sons of men. Of course, we have not yet arrived at that goal; injustice still dwells among us; senseless and cruel customs of the past still cling to us, but the flag leads the way to righting the wrongs of men.

Our flag is the world's symbol of liberty. That piece of red, white, and blue bunting means five thousand years of struggle upwards. It is the full-grown flower of generations fighting for liberty. It is the century plant of human hope in bloom.—Col. Alvin M. Owsley, National Commander of the American Legion.

SUMMARY OF THE WORK, DECEMBER, 1922.

BUREAU OF ADMINISTRATION.

	Dec.	Nov.		Dec.	Nov.
Conferences	3	3	Personnel:		
Hearings	2	2	Resignation	0	1
Prosecutions ordered	8	19	Appointments	7	0
Orders	2	4	Appointments made permanent	1	0
Dump application:			Promotions	2	1
Approved	5	12	Offensive trades rejected, ...	1	1
Refused	1	0	Forcible removals	0	1
Lying-in hospitals ap- proved	1	4	Orders from City Coun- cil	0	1
Special drafts	5	2			

LICENSES, PERMITS, ETC., ISSUED.

	Dec.	Nov.		Dec.	Nov.
Burial permits	1,217	1,084	Denatured alcohol li- censes	12	11
Disinterment permits	11	28	Manicure-massage:		
Milk licenses	131	156	Granted	34	22
Peddler's licenses, gen- eral	21	23	Beverage establishments licensed	0	2
Hen licenses granted	67	69	Grease	0	0
Stable permit granted	0	1	Dumps	28	4
Stable permit granted conditionally	0	1	Sundry	0	0
Stable application re- jected	0	1	Day nurseries	0	0
			Undertakers	1	1

MEDICAL DIVISION.

COMMUNICABLE DISEASES.

	Dec.	Nov.		Dec.	Nov.
Visits by medical inspec- tors	1,624	1,257	Vaccination certificates	6	0
Deaths investigated	14	4	Cases brought to Boston for treatment	120	80
Vaccination	3	12	Antitoxin administered	5	19

NURSING SERVICE.

	Dec.	Nov.
Communicable disease visits	4,614	2,844
Babies visited, first visit	860	1,147
Revisits	1,585	1,693

HEALTH UNIT (Blossom Street).

	Dec.	Nov.
Health Department proper:		
Vaccinations	10	10
Vaccination certificates issued	4	5
Cases visited by nurses:		
Medical	232	203
Babies	147	15

Home-nursing classes:		
Number	11	0
Attendance	173	0
Complaints made of unsanitary conditions	16	15
Visitors:		
Resident	2	3
Nonresident	0	1
General:		
Persons applying for information	218	262
Baby Hygiene Association:		
Babies cared for	334	340
Babies newly admitted	14	18
Babies readmitted	1	0
Conferences:		
Number	6	7
Attendance	136	261
Homes visited by nurses	467	561
Boston Dispensary:		
Calls by district physician	73	62
Boston Sanatorium:		
Calls by nurses in district	877	822
Jewish Welfare Center:		
Nutrition conferences:		
Number	3	4
Attendance	99	115
Nutrition classes:		
Number	4	0
Attendance	64	0
Instructive District Nursing Association:		
Visits made by nurses	2,076	2,040
Prenatal classes:		
Number	3	4
Attendance	12	22

FOOD INSPECTION DIVISION.

MARKET, STORE AND RESTAURANT SERVICE.

	Dec.	Nov.
New reports	2,359	2,608
Stores inspected	3,067	3,780
Sanitary defects remedied	250	338
Complaints at office	22	37
Referred to Sanitary Division	18	36
Milk applications approved	126	156
Street stands inspected	8	11
Peddlers:		
Applications for licenses approved	18	21
Vehicles inspected and approved	465	667
Court cases	7	12
Fines	\$135	\$110

CONDEMNATIONS.

WITHOUT REQUEST.

Eggs	5 dozen	Rabbit	1
Pickles	212	Tomatoes	32 cases
Poultry	21½ pounds	Turkeys	293 pounds
Racoons	5	Veal	10 pounds

LIVE STOCK INSPECTION (Brighton Abattoir).

	Dec.	Nov.		Dec.	Nov.
Cattle inspected	163	470	Swine inspected	7,161	7,128
Calves inspected	919	989	Parts condemned	370	428
Sheep	2	0	Animals condemned	6	8

DAIRY DIVISION.

	Dec.	Nov.		Dec.	Nov.
Total inspections	685	929	With milk rooms	160	299
Dairies inspected	237	465	Without milk rooms	77	166
Scoring above 50*	170	320	Inactive	41	43
Scoring below 50	67	145	Total cattle inspected	4,145	6,121

* Passable mark.

BUREAU OF MILK INSPECTION.

	Dec.	Nov.		Dec.	Nov.
Chemical inspection of:			Bacteriological examination of:		
Milk	1,196	1,506	Milk	503	702
Ice cream	0	3	Ice cream	0	0
Vinegar	125	118	Court cases	0	15
Miscellaneous	12	6	Fines	0	\$365

SANITARY INSPECTION.

	Dec.	Nov.		Dec.	Nov.
Original inspections	1,506	2,251	Car reports	59	96
New report	1,844	2,627	Complaints	569	841
Reinspections	5,451	7,818	Court cases	5	15
Legal notices served	165	267	Fines	\$15	0

BACTERIOLOGICAL LABORATORY.

	Dec.	Nov.
Examinations for diagnosis and release		
Diphtheria	1,851	1,707
Tuberculosis	250	266
Typhoid	38	55
Gonorrhea	517	660
Gonorrheal ophthalmia	54	52
Syphilis	884	1,150
Other examinations	*23	27
Bacteriological examinations of milk	515	729
Examination of rats	0	142
Special K. L. examinations	307	202

* Malaria, 4; water for sewerage, 1; cultures for virulence, 5; urine for typhoid, 1; feces for typhoid, 1; paratyphoids, 2; genito-urinary tuberculosis, 5; dark-field illuminations, 2; smears for trepenema pallidis, 1; turkey soup for poison, 1; turkey for poison, 1.

VITAL STATISTICS, DECEMBER, 1922.

BIRTHS, REPORTABLE ILLNESS AND DEATHS IN BOSTON DURING DECEMBER, 1922, WITH COMPARATIVE FIGURES FOR DECEMBER, 1921.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,081	883	+198	16.97	13.98	+2.99
Nonresidents deducted.....	914	725	+189	14.35	11.48	+2.87
By AGE:						
Under one year.....	150	119	+31	2.35	1.88	+.47
One year to four years, inclusive.....	74	43	+31	1.16	.68	+.48
Sixty years and over.....	409	333	—76	6.42	5.27	+1.15
By SPECIAL CAUSES:						
DEGENERATIVE DISEASES, SO CALLED:						
Apoplexy.....	67	75	—8	1.05	1.18	— .13
Arterio-sclerosis.....	51	35	+16	.80	.55	+.25
Heart disease.....	183	132	+51	2.87	2.09	+.78
Nephritis, chronic.....	58	46	+12	.91	.73	+.18
INFANT AND MATERNAL MORTALITY:						
a. Total registered births and still births..	1,466	1,540	—74	23.02	24.39	—1.37
b. Registered stillbirths.....	64	52	+12	1.00	.82	+.18
Stillbirths per 1,000 births and stillbirths, ...				41.83	32.66	+9.17
c. Deaths of mothers from causes incident to childbirth.....	12	13	—1	.19	.20	— .01
Deaths of mothers per 1,000 births and stillbirths.....				7.84	8.16	— .32
d. Deaths of children in first year of life...	150	119	+31	2.35	1.88	+.47
Deaths in first year per 1,000 live births, ...				102.32	77.27	+25.05
VIOLENCE:						
Accidents.....	48	43	+5	.75	.68	+.07
Homicides.....	3	8	—5	.05	.13	— .08
Suicides.....	11	9	+2	.17	.14	+.03
MISCELLANEOUS:						
Alcoholism, acute or chronic.....	8	4	+4	.12	.06	+.06
Broncho-pneumonia.....	61	35	+26	.96	.55	+.41
Cancer.....	92	96	—4	1.44	1.52	— .08
Cirrhosis of the liver.....	6	8	—2	.09	.13	— .04
Diabetes mellitus.....	19	9	+10	.30	.14	+.16
Diarrhoeal diseases, children under two years of age.....	9	7	+2	.14	.12	+.02

BIRTHS, REPORTABLE ILLNESS AND DEATHS IN BOSTON.—Concluded.

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED.		
	1922.	1921.	Increase or Decrease.	1922.	1921.	Increase or Decrease.
COMMUNICABLE DISEASES:						
Anterior poliomyelitis.....	Cases... 2	2	.....	.03	.03	.....
	Deaths.. 3	.....	+3	.05	.....	+ .05
Cerebro-spinal meningitis.....	Cases... 3	3	—3	.05	.05	— .05
	Deaths.. 2	2	.....	.03	.03	.....
Diphtheria.....	Cases... 279	313	—34	4.38	4.96	— .58
	Deaths.. 19	17	+2	.30	.27	+ .03
Influenza.....	Cases... 46	10	+36	.72	.16	+ .56
	Deaths.. 3	1	+2	.05	.01	+ .04
Measles.....	Cases... 300	22	+87	4.83	3.50	+1.33
	Deaths.. 11	4	+7	.17	.06	+ .11
Pneumonia (lobar).....	Cases... 176	95	+81	2.76	1.50	+1.26
	Deaths.. 93	49	+44	1.46	.78	+ .68
Scarlet fever.....	Cases... 194	168	+26	3.05	2.66	+ .39
	Deaths.. 4	.....	+4	.06	.....	+ .06
Tuberculosis (pulmonary).....	Cases... 122	166	—44	1.92	2.62	— .70
	Deaths.. 53	43	+10	.83	.68	+ .15
Tuberculosis (other forms).....	Cases... 27	25	+2	.42	.39	+ .03
	Deaths.. 6	11	—5	.09	.17	— .08
Typhoid fever.....	Cases... 7	7	.....	.11	.12	— .01
	Deaths.. 1	1	.....	.016	.016	.....
Whooping cough.....	Cases... 348	29	+319	5.46	.46	+5.00
	Deaths.. 14	.....	+14	.22	.....	+ .22

This table includes all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated populations for July, 1921, and 1920, based upon the federal census of 1920 have been used.

Asked what he considered were the most important essentials in maintaining or restoring mental health, Dr. William H. Burnham, professor of pedagogy at Clark University and former president of the Massachusetts Society for Mental Hygiene, recently replied: "A Task, A Plan — and Freedom."

—*Bulletin Massachusetts Society for Mental Hygiene.*

